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PAPER TRADE JOURNAL

PAPER

SIXTY-FOURTH YEAR

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New Power and Paper Scheme for Vancouver

Syndicate of Eastern and British Capitalists Propose to Provide Funds for Developing Up to 50,000 h.p. On Cheakamus River—Half of Power Would Be Devoted to Pulp and Paper Plant to Be Located At Squamish, B. C.—Mill Would Cost Approximately $20,000,000 and Would Employ About Six Hundred Workers

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., August 26, 1935—From Vancouver it is announced that the City Council of that community has had a scheme put before it by J. P. Meehan & Co., a financial house representing eastern and British capitalists, whereby a syndicate would provide funds for developing up to 50,000 h.p. on the Cheakamus river, for which the city holds the rights, and would devote half of this power to a pulp and paper plant to be located at Squamish, at the head of Howe Sound, 40 miles north of Vancouver. Alderman Thomas Wilkinson, who has been sponsoring the proposal in the Council, says the mill would cost $20,000,000, and would employ about 600 workers.

Value of Canada's July Exports

Figures as to the value of Canada's newsprint exports in July, just released by the Dominion Bureau of Statistics, shows the total to be $7,466,820, which compares with $7,263,463 in July, 1934, and with $7,690,850 in June, 1935.

For the four months of the Dominion's fiscal year—that is April, May, June and July—the value of Canada's exports of newsprint was $28,728,774 as compared to $27,017,796 in the corresponding period of 1934.

The United States continues to form the principal market for Canadian newsprint, the exports to that country in July having a value of $5,741,117 out of the month's total of $7,446,820.

Exports of woodpulp and screenings—mostly to the United States—had a value of $2,128,188 in July, against $2,180,952 in July, 1934, and $2,432,870 in June, 1935.

Exports of pulpwood from Canada—almost entirely to the United States—had a value of $948,255 in July, against $1,213,071 in July, 1934, and $702,907 in June, 1935.

Fire Destroys Chicoutimi Mills

Two unused pulp mills, the property of the Quebec Pulp and Paper Corporation, were destroyed at Chicoutimi, Que., on Friday night last, by fire of unknown origin. The mills, active a few years ago, and having a rated capacity of 600,000 lbs. of ground wood (dry) per 24 hours, had been closed since 1930. Only watchmen were in charge. The sprinkler system gave warning of the fire at approximately 9.30 P.M.

While no official estimate of the damage could be made, the property is carried on municipal rolls as valued at $1,000,000 and it was believed the damage was fully half that amount, possibly more.

A quantity of sawn pulpwood, stored for some years in the neighborhood of the mills, caught fire from the blazing buildings and was destroyed.

The mills are situated on the Chicoutimi River at Chicoutimi. No cause of the outbreak could be learned.

Forest Fires Wreak Havoc

Due to a long period of hot, dry weather, forest fires have caused much damage in the Maritime Provinces. The worst havoc occurred in Cape Breton, where several small settlements were wiped out, including Wadden Cove and South Head, N. S., while half a dozen others in Nova Scotia and New Brunswick were evacuated. Many farmers and fisherfolk had their homes and effects destroyed. Heavy rains ultimately extinguished the fires. In Quebec province a number of forest fires occurred, the worst being in d'Alibert Township, Matapedia, but all were kept in check.

Germany Makes Newsprint from Pine

Successful production of newsprint paper from local pine is reported in Germany, according to advices from the American consulate at Leipzig, made public by the Commerce Department.

Experiments have been conducted for several years in the Reich, it is pointed out, looking to the development of a method of manufacturing paper from domestic wood. Up to the present it has been impossible to use German pine for paper manufacture because of the large content of resin. It is reported that a method has now been developed to remove this resin by a special process. It is stated, however, that the process must be developed further before the production of paper from German pine can be taken up on a large scale.

In 1934, the Commerce Department report shows, the German demand for wood for the manufacture of paper amounted to 9,124,626 cubic meters, valued at 118 million Reichsmarks. Two-thirds of the year's requirements was imported from foreign countries, it is pointed out.

Agents of Hammermill Paper Co. Meet At Erie

Twenty-Fourth Annual Conference Is Largely Attended by Representatives From All Over the United States and Abroad—Bruce Barton, Internationally Known Writer and Advertising Man, Speaking at the Conference Predicts Improved Business

Hammermill sales and advertising plans for the coming year were discussed during the twenty-fourth annual Conference of Hammermill Agents held Thursday and Friday, August 22 and 23, in Erie, Pa., home of the Hammermill Paper Company.

To attend the two-day meet one hundred and twenty-one paper merchants from all sections of the United States travelled an average of 1,176 miles each. Also present were representatives of Hammermill's export distributors, including Walter J. Kelly, who journeyed from Shanghai, China, where he is manager of Muller & Phipps (China) Ltd.

Bruce Barton Speaks

After the address of welcome by Ernst R. Behrend, president of the Hammermill Paper Company, who presided at the meetings, Bruce Barton, internationally-known writer and advertising man, spoke to the group. Mr. Barton expressed confidence in a bright business future, and explained that "people with courage who keep working and helping themselves will come through as they have always come through."

Other speakers at the gathering included Norman W. Wilson, first vice president and general manager of Hammermill, Harrison R. Baldwin, vice president in charge of sales, Donald S. Leslie, vice president and assistant general manager, A. Ellis Frampton, advertising manager and assistant manager of sales, J. Fred Wuenschel, Pacific Coast sales manager, and E. V. Johnson, vice president and general manager of United States Envelope Company, Springfield, Mass.

Plans for the business program of the meeting were made by the Agents' Advisory Committee and mill officials, who met at the home of E. R. Behrend, Wednesday afternoon, August 21. Members of the advisory committee present were Chairman W. N. Stetson, Jr., Storrs & Bement Company, Boston, Mass.; John D. Swigart, Swigart Paper Company, Chicago, Illinois; E. W. Julian, Western Newspaper Union, Omaha, Neb.; J. Nacht, Union Card and Paper Company, New York; R. W. Roehm, Beecher, Peck & Lewis, Detroit, Mich.; R. S. Johnston, Old Dominion Paper Company, Norfolk, Va.; Norman W. Fort, The Thomas W. Price Company, Philadelphia, Pa.; H. T. Newell, Jackson Paper Company, Jackson, Miss.; P. A. Stuhlreyer, Diem & Wing Paper Company, Cincinnati, Ohio; V. E. Hecht, Zellerbach Paper Company, San Francisco, Cal.

Elected To Fill Unexpired Terms

Immediately after the Friday morning session the agents elected members to fill expired terms on the advisory committee and the advertising committe. Newly elected members to the advisory committee are W. N. Gillett, Chicago Paper Company, Chicago, Ill., Chairman; C. A. Esty, Carter, Rice & Co., Boston, Mass.; I. W. Carpenter, Jr., Carpenter Paper Company, Omaha, Neb.

New members on the advertising committee are S. T. Jones, Hudson Valley Paper Company, Albany, N. Y., and R. W. Roehm, Beecher, Peck & Lewis, Detroit, Mich.

Meetings of the conference were held during the morning of each day at the Kahkwa Club. Both afternoons were given over to golf and other sports in which the visiting Agents competed for prizes given by Hammermill.

List of Prize Winners

The Hammermill men also competed for prizes presented by the Agents.

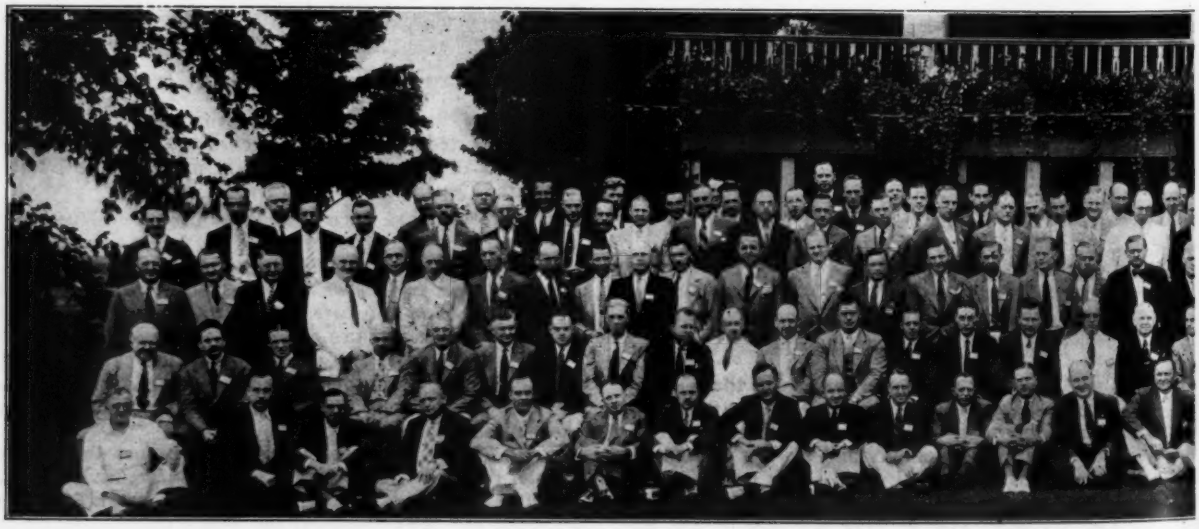
Agent Prize Winners

THURSDAY

Golf

No. 1 Division

Low Gross	A. W. Green
First Low Net	G. E. Caskie, Jr.
Second Low Net	E. P. Magel



PICTURE TAKEN AT THE TWENTY-FOURTH ANNUAL CONFERENCE

No. 2 Division

Low Gross	S. B. Gaines
First Low Net	R. Harris
Second Low Net	F. B. Korbel
Kickers Handicap	W. D. Williams

Obstacle Golf

1st prize	B. E. Reeves
2nd prize	W. R. Grazelle

Bowling

1st prize	Ernest Ferris
2nd prize	C. M. Bleke

The Selling Game

1st prize	H. S. Kratz
2nd prize	W. N. Schaefer

Horseshoes

1st prize	J. E. Alcorn
2nd prize	Alan Chandler

FRIDAY

Golf

No. 1 Division

Low Gross	D. Payne
First Low Net	Bruce Barton
Second Low Net	Sydney Jones

No. 2 Division

Low Gross	J. A. Carpenter
First Low Net	J. M. H. Fitzgerald
Second Low Net	R. S. Johnston

Obstacle Golf

1st prize	C. M. Yates
2nd prize	J. Borrell

Bowling

1st prize	E. Parks
2nd prize	O. Freile

The Selling Game

1st prize	H. S. Wuenschel
2nd prize	J. M. Knablein

Horseshoes

1st prize	M. M. Irwin
2nd prize	W. P. Carney

Hammermill Prize Winners

THURSDAY

Golf

First Low Net	D. S. Leslie
Second Low Net	R. B. Taft
Kickers' Handicap	
1st prize	G. Richardson
2nd prize	Merle Davis

Obstacle Golf

E. Fletcher

Bowling

A. Spierling

The Selling Game

A. Jones

FRIDAY

Golf

First Low Net	John Parke
Second Low Net	Harold Peckham
Kickers' Handicap	
1st prize	Earl O'Connor
2nd prize	John Devitt

Obstacle Golf

D. Zahniser

Bowling

E. L. Heal

The Selling Game

A. Carmosino

Those Who Attended

Martin L. Kratz, The Alling & Cory Co., Buffalo, N. Y.; Herbert S. Kratz, The Alling & Cory Co., Buffalo, N. Y.; James E. Alcorn, The Alling & Cory Co., Cleveland, Ohio; Carl Stuyvesant, The Alling & Cory Co., New York, N Y.; W. J. Shaw, The Alling & Cory Co., Pittsburgh, Pa.; Alan Chandler, The Alling & Cory Co., Pittsburgh, Pa.; B. E. Reeves, The Alling & Cory Co., Rochester, N. Y.; Richard Harris, The Alling & Cory Co., Rochester, N. Y.

R. P. Andrews, R. P. Andrews Paper Co., Washington, D. C.; W. N. Schaefer, R. P. Andrews Paper Co., Washington, D. C.; B. R. Moore, Andrews Paper House of York, York, Pa.; (Div. S. Walter, Inc.); M. Kiesewetter, Antietam Paper Co., Inc., Hagerstown, Md.; Wiley M. Baxter, Jr., The Baxter Paper Co., Inc., Baltimore, Md.;

(Continued on page 22)

OF THE HAMMERMILL PAPER CO., AT ERIE, PA., AUGUST 22-23.

Flambeau Paper Co., of Park Falls, Reorganizes

W. A. Munro, General Manager of Company, Elected President—To Install Modern New Equipment for Production of Higher and Better Grades of Paper and for Improvement of Quality of Paper Now Manufactured—Full Details of Plan Not Completed

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., August 26, 1935—Reorganization of the Flambeau Paper Company, Park Falls, Wis., took place at a meeting of the board of directors at Milwaukee, Wis., on August 16. New officers were elected as follows: President, W. A. Munro; vice presidents, J. H. Coy, in charge of sales, and H. H. Coolidge, in charge of manufacturing; chairman of the board, Morris F. Fox of Milwaukee; secretary and treasurer, J. W. D. Liginger; assistant secretary and treasurer, Avery Sherry.

President Munro is also general manager of the company. He took charge of the Flambeau mill several months ago, coming there from the Munising Paper Company, Munising, Mich. He immediately put plans into effect to reorganize personnel, production and financing so the company can expand its operations.

In a statement issued by Mr. Munro, he declares modern new equipment will be installed for the production of higher and better grades of paper, and for improvement of the quality of the papers now manufactured. Full details of the new plans have not been completed.

Paper Mill Improvements

Bids were received by the Consolidated Water Power and Paper Company last week for approximately $400,000 worth of construction work on the Big Eau Pleine River, near Knowlton, Wis. A dam is to be built there to create one of the several huge reservoirs in the Wisconsin Valley Improvement Company's program for water flow control of the Wisconsin River. The low bidder has not been announced by W. F. Thiele, chief engineer of the Consolidated Company.

The project includes raising of the roadbed of two highways in the area to be flooded, the building of the substructure, abutments and piers for two new bridges, and other alterations. The engineers hope to start the construction work as soon as the contracts are let.

New roofs and other structural work are under way on some of the buildings of the Minnesota Mining and Manufacturing Company's paper mills at Wausau, Wis. The contract has been awarded to William M. Murphy & Son, St. Paul, Minn. The company manufactures abrasive papers, sand paper, etc.

News of the Industry

Planting of 8,000,000 trees on state and county owned lands will be carried on this fall by the Wisconsin Conservation Commission, according to C. L. Harrington, superintendent of forests. The seedlings will be obtained from the nurseries at Trout Lake and Wisconsin Rapids, Wis., where 35 acres are under cultivation. These additions make Wisconsin second in the United States in the amount of tree planting this year. New York ranks first. Michigan is in third place, with 3,000,000 trees less than Wisconsin.

An executive order has been issued by President Roosevelt authorizing the purchase by the government of privately owned lands on Isle Royale, in Lake Superior. A total of $705,000 has been allocated for the purchase. The Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., owns a large stand of timber on the island, and has been conducting extensive logging operations this summer. It is expected that the island will be converted into a national park.

Marathon Paper Mills Company tissue division at Ashland, Wis., received its third cargo of foreign pulp of the season last week, and employed 100 men at the docks to unload it. The cargo of 6,750 bales, constituting 1,125 gross tons, came from Sweden on the steamer *Topdalsfjord*, and was transferred to the *Prescodoc* at Montreal. Another cargo containing 3,000 bales, or 500 tons, from Sweden is en route from Montreal aboard the steamer *Lawrendoc*.

Plans are being made by the Continental Paper and Bag Corporation to sell its branch mill at Oconto Falls, Wis. The city council has been notified of its intentions, and a committee has been appointed to seek a purchaser in the hope the mill may resume operations. It was closed down early in the depression years.

Fire damage of approximately $300 was caused by a blaze at a warehouse of the Patten Paper Company, Ltd., at Kaukauna, Wis., several days ago. The interior of the building was damaged, and some new lumber and other mill supplies were ruined. Sparks from a chimney caused the fire. The loss was covered by insurance.

The estate of Robert L. Kraus, late vice president of the Consolidated Water Power and Paper Company, who died at his home at Marshfield, Wis., August 31, 1934, amounts to $228,503.66, according to the final accounting filed in probate court. His five children are the joint heirs.

Two new research assistants have been engaged by the Institute of Paper Chemistry, Appleton, Wis. They are W. V. Drake, who received his Ph.D. degree in 1934 from the organic chemistry department of the University of Wisconsin, and Alan M. Glover, who received his Ph.D. degree from the physics department of the University of Rochester in June. Mr. Drake will assist Dr. Harry F. Lewis in the organic chemistry department.

Locals of the paper mill unions at the Thilmany Pulp and Paper Company, Kaukauna, Wis., and the Combined Locks Paper Company, Combined Locks, Wis., are planning to hold picnics in their respective cities on Labor Day. A parade will be a feature of the Kaukauna picnic. The day will be spent with recreational activities at the parks, and an address will be made at Kaukauna by Samuel A. Sigman, district attorney of Outagamie County, and Joseph A. Padway, labor attorney, of Milwaukee.

Book Paper Manufacturers To Meet

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., August 26, 1935—The Book Paper Manufacturers Association will hold its next meeting here on September 11, 12 and 13. The Park-American Hotel has been selected as headquarters where all Executive Committee and general meetings will be held.

The Executive Committee will meet at 10 A.M. on September 11, and there will be a luncheon for the members at 1:30 P.M. following the general meeting on September 12.

Bright Outlook for Paper Industry in Boston

Volume of Fine Paper Sales Ranges From Fair to Good—Wrapping Paper Moving In Satisfactory Volume for Season—Indications Point to Substantial Autumn Business—Sentiment Improves In Paper Stock Section, With Lower Grades More Active

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., August 26, 1935 — Favorable reports continued in the paper trade here last week, with a good feeling prevailing. Indications point to a substantial fall business. Sales of fine paper ranged from fair to good. At the New England office of a prominent manufacturer of fine paper it was stated that conditions were better than those of the previous week. In some quarters of the wrapping paper market, sales were reported as unsatisfactory, but, on the whole, they were in good volume, considering the season. The market for paper bags was weak. Considerable price cutting has been done.

The paper stock market was rather active in mixed papers, old newspapers, new shirt cuttings and roofing rags. Under old papers, most mills paid .25 for mixed papers, although in some quarters there was buying at .22½. Old newspapers remained firm at .25 @ .27½. Bagging continued strong. A number of advances took place in new domestic rags, new white shirt cuttings No. 1 moving up to .06 @ .06¼ from .05½ @ .06, new white shirt cuttings No. 2 to .04 @ .04¼ from .03½ @ .04, soft unbleached to .06½ @ .06¾ from .05⅞ @ .06½, and blue overalls to .04¼ @ .04½ from .04. In the old domestic rag market there is a much better feeling in regard to roofing stock. A world-wide shortage of roofing stock exists, with the domestic production much curtailed. Roofing rags are now selling at three times the price of the last low point and by next winter it is expected that there will be an advance of at least 33⅓ per cent over the present price. The No. 1 grade of roofing stock continued firm at 1.30 @ 1.35, No. 2 grade advanced to 1.05 @ 1.15 from 1.05 @ 1.10, and No. 3 to .95 @ 1.05 from .95 @ 1.00. In foreign rags, old fustians went up to 1.90 from 1.75 @ 1.85. Foreign shippers of roofing rags who used to sell 300 to 400 tons at a time, are now offering but an occasional 50 tons.

American Writing Contest

Two contests, at least, conducted by paper manufacturers, will be on for the month of September.

The American Writing Paper Company, Inc., Holyoke, Mass., is offering a special prize of $25 in cash to the stationer who develops the most attractive and unique window display for Eagle-A Typewriter Papers. F. H. Winter, sales manager of Carter, Rice & Co., Corp., has issued circulars to the trade, in relation to the contest, and John Wilson, advertising manager of the same company, has produced a circular advising that the American Writing Paper Company's boxed typewriter papers are being displayed at the South Station. It is understood that there is to be a window display at Carter Rice's store.

Charles Foster, manager of the New England office of the American Writing Paper Company, has photographs showing a window decorated. The picture shows a typewriter in the center, with a full box of typewriter paper on each side. With the exception of these items, the company will furnish all the other material without extra charge.

Carter, Rice & Co. is furnishing the following accessories for each window display without cost: A large circular card reading "Eagle-A Typewriter and Boxed Papers," a flat easel card reading "A Correct Paper for Every Office Use," a card showing types of Eagle-A office papers, an Eagle-A trademark cut-out, a counter display cut-out, four easels for empty boxes, fourteen boxes of representative lines, and three typewriter sample books.

Crocker-McElwain Competition

The Crocker-McElwain Company, Holyoke, Mass. (whose papers are handled in Boston by Storrs & Bement Company and John Carter & Co., Inc.), of which E. S. Dunbar is advertising manager, has made plans for the contest which is to start in September, based on the new letterhead portfolio, "Individualized Letterheads on Certified Bond."

The company has asked the local clubs of Printing House Craftsmen to devote one of their meetings in September or October to a discussion of these letterheads. The members present at this meeting will rate the letterheads according to their merit and send their composite rate to the mill. The ratings made by the various clubs will be combined by a committee into a final composite rate.

The contest will be conducted by salesmen of the Boston paper firms mentioned. The company has asked them to canvass printers and other users of bond paper to rate the letterheads in what they consider their order of merit on entry blanks which are to be countersigned by the salesmen.

Five cash prizes will be awarded for the winning arrangements of letterheads, and the salesmen who countersign the winning blanks will receive the same prize as the person whose blank they signed. The Boston paper companies will probably have special representatives at the meetings. Wherever possible the Crocker-McElwain Company will try to have a mill representative attend the meetings to assist in conducting the discussion on the letterheads.

News of the Industry

A sales meeting of the Storrs & Bement Company was held at the office Friday evening to discuss plans for the coming season.

Charles A. Esty, president, and Robert H. Welsh, merchandise manager of the fine paper department, both of Carter, Rice & Co., Corp., attended the manufacturers and merchants' meeting of the Hammermill Paper Company, Erie, Pa., on Thursday.

Floyd H. Blackman, secretary of the D. F. Munroe Company, has returned from a motor trip to Canada, Ticonderoga, Lake Champlain, Maine and Vermont.

Henry L. Goodman, dealer in fancy papers, is merchandising a large variety of new papers for the greeting card trade, in which he reports a good volume of sales.

Lawton Dix with Paper & Industrial Appliances

Lawton A. Dix, who for a number of years has been associated with paper manufacturing and publishing corporations, is now associated with the Paper and Industrial Appliances, Inc., at 122 East 42nd street, New York.

B. C. Newsprint Mills Look for Higher Prices

While Pacific Coast Manufacturers Have, Comparatively Speaking, Prospered During Last Few Years, Steadily Rising Production Costs Necessitate Compensating Price Increase—Sufficient Business Offering to Keep Machines Running Full Capacity

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., August 26, 1935—While the newsprint industry in British Columbia is not without its problems, according to information gathered in the province, there seems to be a small likelihood of the Federal Natural Products Marketing Act being applied. In fact, should the provincial government show any inclination to take the required step to implement such legislation in the province, it would be opposed by the mill operators.

The paper mills are finding it increasingly difficult to meet the steadily rising cost of production without compensating increase in the price of their product. There is a feeling among coast newsprint men that something will have to be done when the contracts are re-opened in the fall.

Apart from this question of price no serious problems confront the newsprint industry at the present time. Conditions applying to the industry in Ontario and Quebec, in respect to markets, transportation facilities and costs are very different from those prevailing in British Columbia. In that province the mills are on tide-water, are able to ship every month in the year by water and depend almost exclusively on foreign sales. The mills control their own supply of raw materials and are not subject to the ruinous competition which has impeded several of the mills in the east.

Comparatively speaking, the British Columbia mills have prospered during the last few years and, while prices have been so low as to preclude very profitable operations, there has been sufficient business offering to keep the machines working 100 per cent of capacity. Powell River Company and Crown Zellerbach Corporation, controlling Pacific Mills, Ltd., at Ocean Falls, which between them account for all the newsprint production in British Columbia, are among the few Canadian newsprint concerns that have not gone through some form of receivership. There is strong likelihood that at least two new organizations will enter the field within the coming year.

Imposition of the 50 per cent surtax on imports has eliminated Japan as a buyer of British Columbia pulp temporarily. China appears to be out of the picture indefinitely and prevailing pulp prices hold small promise of a profitable market. Working on the assumption that the tide has turned and that the early future holds promise of a profitable market, however, two groups are now laying their plans for putting mills into operation—one at Prince Rupert and another at Port Mellon, about 30 miles north of Vancouver on Howe Sound.

The Port Mellon enterprise will be dealt with at an adjourned meeting of bondholders on September 12 when various proposals for putting the mill on an operating basis will be considered. About $1,500,000 was spent on the Port Mellon kraft paper and lumber mill of Vancouver Kraft Mills, Ltd., controlled by the F. W. Leadbetter interests, but the mill was never operated. The company defaulted on its bonds falling due in 1931 and an extension of four years was agreed upon. National Trust Company moved for receivership recently and this resulted in Mr. Leadbetter calling a meeting of bondholders and submission to them of a program for borrowing $400,000 with which to complete the plant, pay off taxes, insurance and so on and provide working capital. This will be considered at a meeting next month.

The Prince Rupert Enterprise

Meanwhile, the Prince Rupert project appears to be shaping up pretty definitely. F. L. Buckley, who has been working for years for a pulp mill to handle pulpwood from extensive holdings on the Queen Charlotte Islands and in the Skeena Valley, announces that the mill will have a capacity of 250 tons of bleached sulphite pulp daily; that an investment of about $5,000,000 is involved; that construction will probably commence this fall. Power will be obtained from the Northern British Columbia Power Company augmented by what the company may produce itself.

New Paper Novelty Works Open

Party decorations, valentines and a wide range of similar type familiar to Canadians for years and which have been manufactured entirely in the United States, are now to be produced in Toronto for the Dominion market, according to a statement by the general manager of the Toronto Industrial Commission. The Paper Novelty Manufacturing Company, whose head offices and factory are in New York, has leased the entire fourth floor of the Newell Building, 130 Duchess street; has installed the necessary equipment and will commence operations at once under the direction of Rudolph Frey, an executive of the United States company. In addition to the activities of the company's own plant, a considerable share of the production of its products is to be handled by Toronto manufacturers and all materials used will be of Canadian and for the most part Toronto origin.

U. S. Proposal on Paper Quota

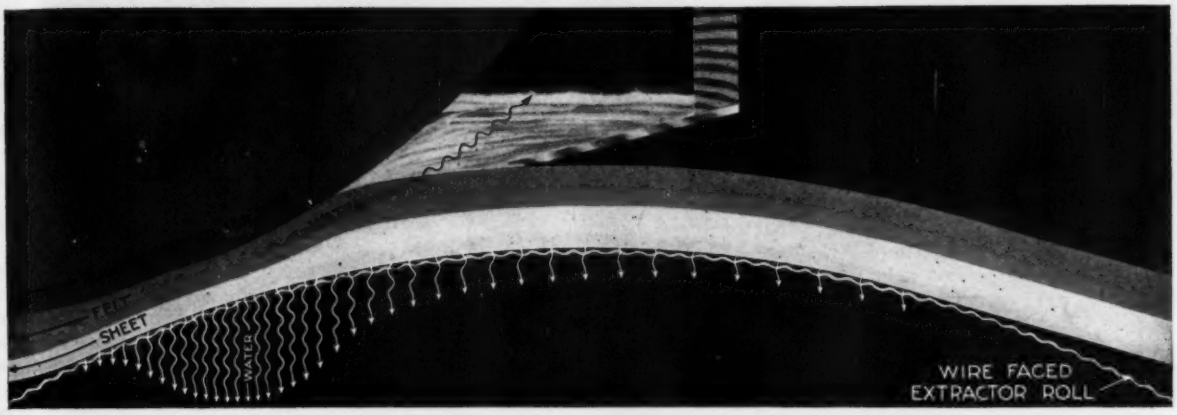
Efforts on the part of United States publishers to persuade the Canadian newsprint industry to either submit to a voluntary or a state imposed quota system, have reached the Government at Ottawa. Frank Murphy, of the *Minneapolis Tribune*, spent several days at Ottawa this week interviewing leading public men and government officials and seeking to convince them that along this line a solution to the newsprint problem could be found. It is learned definitely that while Mr. Murphy received an attentive hearing, he left the capital without having obtained anything in the way of a commitment. Significance attaches to his visit, in the view of officials at the capital, by reason of his close connection with the Roosevelt administration. It was recalled that he was chosen by President Roosevelt to be one of the United States representatives on the world wheat committee and as such signed the wheat agreement.

New Prices for Tests

Announcement is made by the United States Testing Company, Inc., Hoboken, N. J., of the issuance of a complete new list of prices, effective September 1, 1935, covering physical and chemical tests of paper, etc. The tests are listed in booklet form titled "Physical and Chemical Tests." A copy is yours for the asking.

DOWNINGTOWN

BEFORE



AFTER

"Add-a-Roll" Modernization Definitely Pays for Itself

(See Intermediate Steps in Diagrams Below)

Straight Line Water Removal

The large illustration shows how water is removed VERTICALLY DOWNWARD through the wire face of Extractor Rolls and similarly through the drilled face of Suction Rolls assuring safe running at high speed. With solid press rolls, water is forced back through the oncoming sheet, thus "crushing" results.

It is not necessary to change-over to complete Duo-Dehydration in order to obtain immediate appreciable benefits. Each step in this installment modernization produces marked benefits which rapidly justify the next step toward complete Duo-Dehydration. Note in Diagram 3 that the Suction Press replaces the battery of Primary Presses and that in Diagram "After" a new vat has been added in the space saved. . . . We build Suction Drum Rolls as well as Extractor Rolls, Suction Press Rolls and Suction Felt Rolls, therefore it will pay you to consult us before making any wet end changes. The Downingtown Mfg. Co., Downingtown, Pa.

(1) (2) (3)

No Board Machine is Modern *Without* DUO-DEHYDRATION

TAPPI FALL MEETING—PHILADELPHIA-ATLANTIC CITY—Sept. 18-21

Crossett Paper Mill Loan Definitely Made

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 28, 1935—The loan made to the Crossett Lumber Company for the construction of a new paper and pulp mill in the South has definitely been made and it will not be reconsidered Jesse Jones, chairman of the Reconstruction Finance Corporation announced at a press conference yesterday. He put at rest any idea that opposition to the loan had made any difference and unless he turns about face, which he is not likely to do, the loan will go through as announced.

In a prepared statement which he made public at the conference he called attention to the fact that loans for the construction of pulp and paper mills were advocated and discussed before the House of Representatives Banking and Currency Committee in January of this year when the extension of the RFC act was under discussion. He called attention also to the fact that this was also discussed on the floor of the House when amendments to the RFC act were adopted. In his prepared statement Mr. Jones stated that:

"We have only had one formal application for the construction of a pulp and paper mill—that of the Crossett Lumber Company, at Crossett, Ark.

"The security for this loan is conservatively estimated at $12,000,000, or more than three times the amount of the loan. It includes, in addition to the new mill, a first mortgage on 333,803 acres of timber and pulpwood land; 970,000,000 feet of pine saw timber; 198,000,000 feet of hardwood saw timber; 1,054,000 cords of pine pulpwood; 716,000 cords hardwood chemical; three large saw mill plants; and the town of Crossett, Ark., with a population of 3,500 people who are dependent upon the operations of the Crossett Company. The town of Crossett, Ark., comprises about 3,000 acres of land on which there is located 685 modern homes, store buildings, office buildings, hotel, boarding houses, hospital, theater, ice plant and such other buildings as are needed to make a complete town, served by electricity, water and sewerage, all belonging to the borrower, and included in the mortgage.

"The loan is for $3,850,000—estimated cost of the new mill—and matures in installments ending January 31, 1945. The company's previous earning record, including the last few years, assures payment of the loan.

"The annual capacity of the new pulp and paper mill will be approximately 31,000 tons of kraft paper, and 15,500 tons of dried sulphate pulp, and we have been importing approximately 500,000 tons of kraft pulp annually.

"Construction of the Crossett mill will furnish a great deal of employment immediately, and continually thereafter in its operation.

"A brief filed by the American Pulp and Paper Association, opposing the loan, was given full consideration before the loan was granted.

"Every governmental loan to industry competes with private capital, and it is for Congress to determine how long it wishes such loans made."

Dwight K. Bartlett Resigns

HOLYOKE, Mass., August 26, 1935—Dwight K. Bartlett, Jr., superintendent of the Gill Division of the American Writing Paper Company, Inc., has resigned, effective September 1, to accept a position in the eastern part of the State. Mr. Bartlett went to Holyoke soon after the closing down of the Windsor Division of the company at Windsor Locks, Conn. He had been connected with the company since his graduation from Brown University in 1923.

Philadelphia Paper Outlook Good

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., August 26, 1935—The outlook in both divisions—fine and coarse—of the paper industry is very good. The basic factors which go to make up the business picture all point to steady improvement in volume for September. No startling change is expected but the recent increase in consumer demand for standard grades is making itself felt in the depleted primary stocks of paper merchants, and production is stepping up quite a bit. Reports from the retail trade indicate that this branch of the industry is ordering more extensively in anticipation of big business ahead.

Paper stock remains generally quiet although a demand for corrugated box stock for use in making leather board has been experienced during the past week. It is said that the packers in this industry are exerting every possible effort to secure more favorable prices for low grades of waste paper, and it now appears that they are beginning to realize at least some measure of success. Certainly the market for folded news and mixed paper is firmer than it was in tone.

Book stock is exhibiting a strong tendency to advance. Although the mills are working on a curtailed schedule, they are experiencing a stimulus, not sufficient however to make a profit. They are continuing to hope for the best in the way of operating on a full-time basis, in which event a profit will be possible. Since the mills object to having mixed papers among old newspaper, the packers have been requested to keep these two grades separate.

The Philadelphia agents attending the Hammermill conference, held in Erie this past week, include Paper Merchants, Inc., represented by Winfield Predmore and Ormand Freile; the Thos. W. Price Paper Company, represented by Norman W. Fort, and D. L. Ward Company, represented by George Ward and Reginald D. Perry.

Alexander Thomson Jr. Goes to Cleveland

Beginning September 15, Alexander Thomson, Jr., now of the Cincinnati Office of the Champion Paper and Fibre Company, will be affiliated with Joseph Reed, manager of the Central sales office of the company at 1004 Terminal Tower, Cleveland.

Mr. Thomson has been with Champion since 1928. For a year and a half he was with the Champion research and advertising departments and since 1931 has been with the Cincinnati sales office of the company.

For two terms Mr. Thomson was a director of the Cincinnati Advertisers' Club and is president of the Cincinnati Association of Industrial Marketers which office he is resigning to come to Cleveland. He will affiliate with the advertisers' and marketers' association units in Cleveland.

Mr. Thomson served as chairman of the entertainment committee for the International Association of Printing House Craftsmen convention in Cincinnati this August.

Mr. Thomson will attend the National Industrial Advertisers' Association convention in Pittsburgh, September 18-20, before taking up his business permanently in Cleveland.

Paper trade territory which Mr. Thomson will contact from his new Cleveland office will include Detroit, Akron, Toledo, Syracuse, Rochester, and Buffalo.

Mr. Thomson is the son of Alexander Thomson, board chairman of the Champion company. In Cleveland Mr. and Mrs. Thomson and their young daughter will make their home at 19001 Oxford Road, Shaker Heights.

B. F. Perkins & Son, Inc., Holyoke, Mass.

ENGINEERS AND MANUFACTURERS

TRADE MARK REG. U.S. PAT. OFF.

Cotton Rolls
Paper Rolls
Embossing Rolls
Chilled Iron Rolls
Granite Press Rolls
Glassine Supercalenders
Web Supercalenders
Friction Calenders
Embossing Calenders
Mullen Paper Testers
Tensile Testers
Rag Cutters
Stock Cutters
Paper Dampeners

AGENTS OF HAMMERMILL PAPER CO. MEET AT ERIE

(Continued from page 15)

Geo. F. Schall, Beacon Paper Co., St. Louis, Mo.; R. L. Tillman, Beacon Paper Co., St. Louis, Mo.

R. W. Roehm, Beecher, Peck & Lewis, Detroit, Mich.; Geo. A. Naumann, Beecher, Peck & Lewis, Detroit, Mich.; E. L. Kramer, Beecher, Peck & Lewis, Flint, Mich.; Theodore Greenebaum, Beekman Paper & Card Co., Inc., New York, N. Y.; A. C. Nelson, John Boshart Paper Co., Duluth, Minn.; L. A. Ramaker, The Bouer Paper Co., Milwaukee, Wisc.; H. O. Fuersten, The Bouer Paper Co., Milwaukee, Wisc.

Roscoe Taylor, Butler Paper Co., Inc., Fort Wayne, Indiana; H. O. Goethals, Carpenter Paper Co., Grand Rapids, Mich.; R. R. Moser, Carpenter Paper Co. of Okla., Oklahoma City, Okla.; Dewey A. Hoadley, Carpenter Paper Co., Omaha, Nebr.; J. Harry Custance, The Carter, Rice & Carpenter Paper Co., Denver, Colo.

C. A. Esty, Carter, Rice & Co., Boston, Mass.; R. M. Welsh, Carter, Rice & Co., Boston, Mass.; G. E. Caskie, Jr., Caskie Paper Co., Lynchburg, Va.; Albert F. Miller, The Central Ohio Paper Co., Columbus, Ohio; Karl S. Moening, The Central Ohio Paper Co., Toledo, Ohio; W. N. Gillett, Chicago Paper Co., Chicago, Ill.; R. M. Clements, Clements Paper Co., Nashville, Tenn.

E. P. Magel, Crescent Paper Co., Indianapolis, Ind.; M. V. Wiggins, Crescent Paper Co., Indianapolis, Ind.; F. Dana Payne, Daka Paper Co., Erie, Pa.; J. H. Bliss, Daka Paper Co., Erie, Pa.; J. M. Knablein, Daka Paper Co., Erie, Pa.; E. G. Ulrich, Daka Paper Co., Erie, Pa.; Edward Selden, Daka Paper Co., Erie, Pa.; A. L. Schneider, Diem & Wing Paper Co., Cincinnati, Ohio; C. M. Yates, The Dudley Paper Co., Lansing, Mich.; W. E. McComb, The Dudley Paper Co., Lansing, Mich.

Wm. P. Carney, Durico Paper Co., Erie, Pa.; Geo. J. Kuebel, Durico Paper Co., Erie, Pa.; Henry Wuenschel, Durico Paper Co., Erie, Pa.; J. M. H. Fitzgerald, Epes-Fitzgerald Paper Co, Columbia, South Carolina; T. H. Epes, Epes-Fitzgerald Paper Co., Richmond, Va.; A. W. Green, Green & Low Paper Co., Inc., New York, N. Y

F. Stutzman, Holland Paper Co., Inc., Buffalo, N. Y.; W. R. Grazelle, Holland Paper Co., Inc., Buffalo, N. Y.; S. T. Jones, Hudson Valley Paper Co., Albany, N. Y.; Geo. S. Clerk, Hudson Valley Paper Co., Albany, N. Y.; John B. Binley, Hudson Valley Paper Co., Albany, N. Y.; Mac Irwin, Irwin Paper Co., Quincy, Ill.; H. T. Newell, Jackson Paper Co., Jackson, Miss.; J. A. Carpenter, Kansas City Paper House, Kansas City, Mo.

Thomas S. Lathrop, Lathrop Paper Co., New York, N. Y.; Eugene Parks, Lehigh Valley Paper House, Allentown, Pa.; Frank P. Leslie, John Leslie Paper Co., Minneapolis, Minn.; W. H. Stuart, Henry Lindenmeyr & Sons, New York, N. Y.; James P. O'Connor, Megargee Brothers, Scranton, Pa.; N. K. Woodward, Midwestern Paper Co., Kansas City, Mo.

W. D. Williams, Miller Paper Co., Inc., Louisville, Ky.; R. S. Johnston, Old Dominion Paper Co., Norfolk, Va.; A. D. Cleveland, E. C. Palmer & Co., Ltd., New Orleans, La.; Charles M. Bleke, The Papercraft Co., St. Louis, Mo.; O. Freile, Paper Merchants, Inc., Philadelphia, Pa.; W. Predmore, Paper Merchants, Inc., Philadelphia, Pa.; E. A. Petrequin, The Petrequin Paper Co., Cleveland, Ohio; Norman W. Fort, The Thomas W. Price Co., Philadelphia, Pa.

Max Reinhold, The Reinhold Card & Paper Co., New York, N. Y.; W. A. Rhodes, S. P. Richards Paper Co., Atlanta, Ga.; E. C. Mead, Richmond Paper Co., Inc., Richmond, Va.; Bulkeley Van Schaak, The Rourke-Eno Paper Co., Inc., Hartford, Conn.; Frank W. Holden, The Rourke-Eno Paper Co., Inc., Hartford, Conn.; C. E. Schoff, San Antonio Paper Co., San Antonio, Texas; J. Cunningham, Bradner Smith & Co., Chicago, Ill.; G. R. Likins, Springfield Paper Co., Springfield, Mo.

W. N. Stetson, Jr., Storrs & Bement Co., Boston, Mass.; John D. Swigart, Swigart Paper Co., Chicago, Ill.; George Gould, Swigart Paper Co., Chicago, Ill.; W. P. Beene, Tayloe Paper Co. of Oklahoma, Tulsa, Okla.; J. Nacht, Union Card & Paper Co., New York, N. Y.

C. R. Smith, Van Reed Paper Co., Reading, Pa.; Howard W. Vernon, Paul E. Vernon & Co., New York, N. Y.; Simon Walter, S. Walter, Inc., Philadelphia; R. D. Perry, D. L. Ward Co., Philadelphia, Pa.; Douglas Warner, O. F. H. Warner & Co., Inc., Baltimore, Md.; A. A. Sorensen, Western Newspaper Union, Des Moines, Ia.; L. R. Reynolds, Western Newspaper Union, Fargo, N. Dak.

E. W. Buckley, Western Newspaper Union, Little Rock, Ark.; O. W. McKowen, Western Newspaper Union, Oklahoma City, Okla.; E. W. Julian, Western Newspaper Union, Omaha, Nebr.; Roy C. Cook, Western Newspaper Union, Sioux City, Ia.; E. L. Walters, Western Paper Co., Omaha, Nebr.; Ernest Ferris, Zellerbach Paper Co., San Diego, Cal.; V. E. Hecht, Zellerbach Paper Co., San Francisco, Cal.; Frank Stratford, Zellerbach Paper Co., San Francisco, Cal.

Elwin Walker, Walker, Goulard, Plehn Co., Inc., New York, N. Y.; J. Borrell, Walker Goulard, Plehn Co., Inc., New York, N. Y.; Bruce Barton, Batten, Barton, Durstine & Osborn, New York, N. Y.; Charles Babcock, Batten, Barton Durstine & Osborn, New York, N. Y.; S. Harned, Batten, Barton, Durstine & Osborn, New York, N. Y.

E. V. Johnson, United States Envelope Co., Springfield, Mass.; E. L. Wood, P. P. Kellogg & Co., Div., Springfield, Mass.; F. B. Korbel, P. P. Kellogg & Co., Div., Springfield, Mass.; F. L. Fisher, Central States Envelope Co., Div., Indianapolis, Ind.; C. T. Roos, National Envelope Co., Div., Waukegan, Ill.; A. E. Farr, National Blank Book Co., Holyoke, Mass.

Robert E. Ramsay, The Robert E. Ramsay Organization, Inc., New York, N. Y.; Alfred S. Walden, Walden, Sons & Mott, New York, N. Y.; C. C. Walden, Jr., Walden, Sons & Mott, New York, N. Y.

S. B. Gaines, Capital City Paper Co., Springfield, Ill.; Wm. H. Howe, Wm. H. Howe Co., Buffalo, N. Y.; Harry G. Keffer, Johnston, Keffer & Trout, Harrisburg, Pa.; Walter J. Kelly, Muller & Phipps (China) Ltd., Shanghai, China; E. J. Petrequin, The Petrequin Paper Co., Cleveland, Ohio.

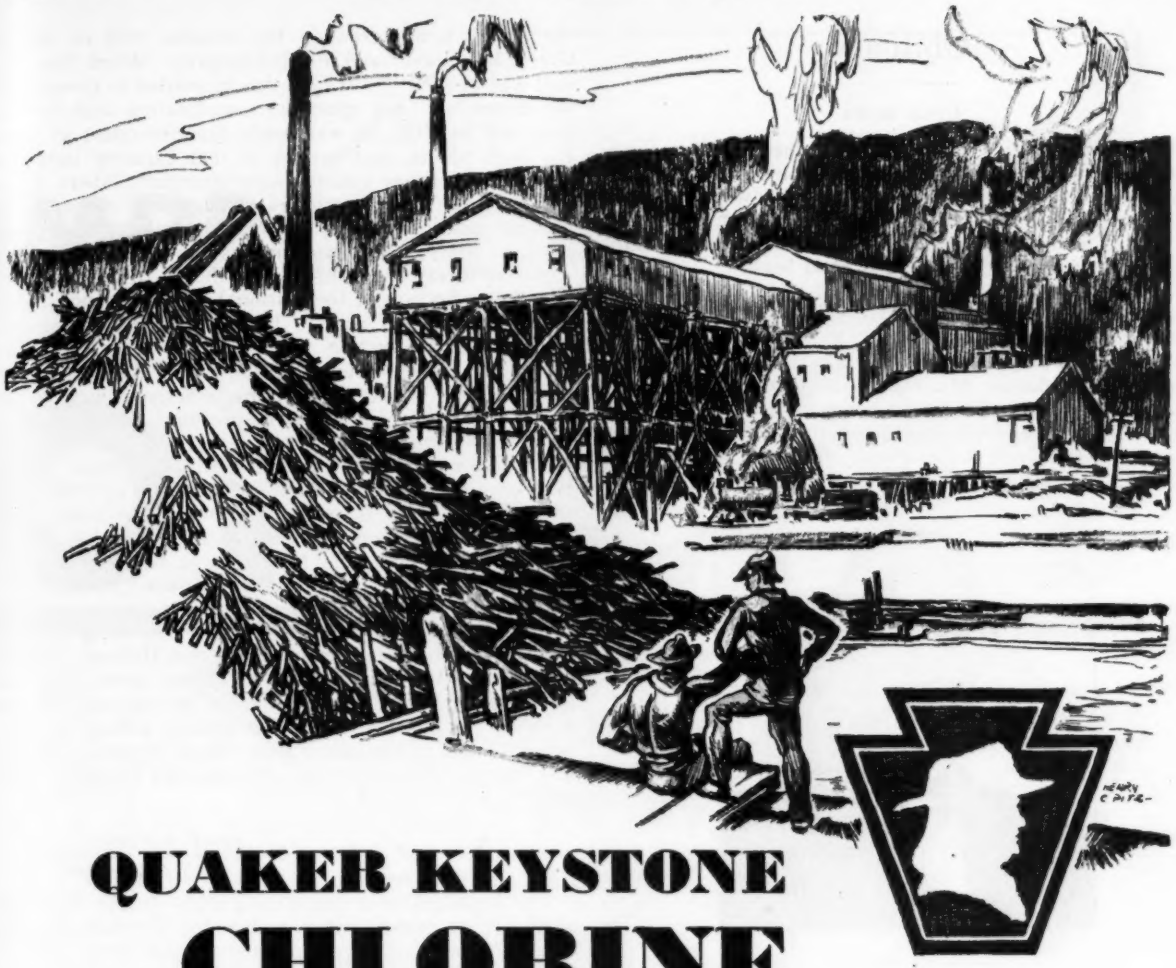
Robert B. Julian, Western Newspaper Union, Omaha, Nebr.; Harry J. Payne, Batten, Barton, Durstine & Osborn, New York, N. Y.; O. J. Graham, Erie, Pa.; H. E. Fish, Erie, Pa.

Tariff Commission to Investigate Pulp

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 28, 1935—The Senate last week just before adjournment passed a resolution introduced by Senator Borah calling for an investigation by the Tariff Commission of the differences in the cost of production of domestic and foreign wood pulp or pulpwood. The resolution as it passed is as follows:

"Resolved, That the United States Tariff Commission is directed, under the authority conferred by section 336 of the Tariff Act of 1930, and for the purposes of that section, to investigate the differences in the costs of production of the following domestic articles and of any like or similar foreign articles; Wood pulp or pulpwood."



QUAKER KEYSTONE CHLORINE

There are many satisfied users of Quaker Keystone Chlorine in the paper industry. Quaker Keystone Brand Chlorine is the result of years of experience and rigid manufacturing control. It assures you of a high test chlorine . . . uniform in quality.

Quaker Keystone Chlorine is shipped in all standard types of containers—single unit tank cars of 16 and 30 tons each and multi-unit cars consisting of 15 one-ton containers. Also small cylinders of 100 and 150 pounds capacity.

Quick deliveries are made to all parts of the country due to the convenient location of our plants and stocks.

Why not write today and tell us about your particular problems? Our technical staff will gladly cooperate.

Other Chemicals for the Paper Industry

CAUSTIC SODA
SODIUM ALUMINATE
PENCHLOR (*Super-test Calcium Hypochlorite*)
PENCHLOR ACID-PROOF CEMENT
ALUM
ANHYDROUS AMMONIA
BLEACHING POWDER (*Standard Strength*)
CARBON TETRA-CHLORIDE

Est. 1850

PENNSYLVANIA SALT MFG. CO.

EXECUTIVE OFFICES, WIDENER BLDG., PHILADELPHIA, PA.

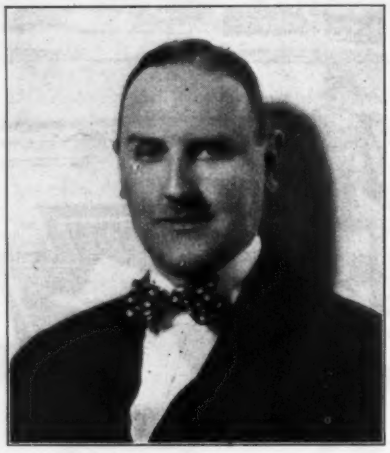
Branch Sales Offices: New York—Chicago—St. Louis—Pittsburgh—Tacoma—Wyandotte

Obituary

Orvar Hylin

Orvar Hylin, Vice-President, Lagerloef Trading Company, Inc., whose death was briefly mentioned in the PAPER TRADE JOURNAL last week, passed away just after midnight August 20, as a result of complications following an operation for the removal of his gall bladder. Up until that time he had always enjoyed good health.

Mr. Hylin was born in Sweden 48 years ago. He was educated abroad. Upon his arrival in this country a little over 25 years ago he was met at the vessel by Hans Lagerloef and they were associated in friendship and business until his death. Mr. Hylin had taken a very active part in the affairs of the pulp and paper industry and he was known to practically every important executive in this industry abroad and in Canada as well as in this country.



ORVAR HYLIN

He was decorated by the Republic of Finland for his outstanding services in the development of commerce between that country and ours.

To all those who knew Mr. Hylin any eulogy would be superfluous, and to those who did not know him it would be foreign to his nature to publicly proclaim his virtues; therefore, suffice to say, he was admired for his outstanding character and integrity, greatly respected for his ability and was highly regarded as a friend. He departed this world leaving behind a reputation for character and integrity, ability and achievement, and friendship, an epitaph worth striving for.

He is survived by his widow, the former Dorothy Gisela Jehle of New York, and a son, Orvar Ragnar Hylin, 9½ years old, also his mother, brother and two sisters abroad.

Herbert Banta

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., August 26, 1935—Herbert Banta, personnel manager of the Hoberg Paper and Fiber Company, Green Bay, Wis., died suddenly August 9 while visiting at his sister's summer home at Shawano Lake, Shawano, Wis. He was 56 years old. The body was conveyed to Green Bay for burial services. Mr. Banta was an ardent advocate of mill safety, and was also active in activities for traffic safety. He was chairman of the Pulp and Paper Section of the National Safety Council.

He was born in the town of Chase, Oconto county, August 16, 1879, and came to Green Bay in 1907, joining the power house crew in the sulphite mill of the old Green Bay Paper and Fibre Company. When the paper mill was erected in 1912, he was promoted to power plant superintendent, and upon the consolidation with the Hoberg mill in 1922, he was made superintendent of power for both plants, and served in that capacity until promoted to assistant general superintendent. About a year ago, he was made personnel manager, in charge of industrial relations. He was forced to resign from active work by illness about two months ago.

Active in safety work, he was chosen to head the Pulp and Paper Section of the National Safety Council for the entire nation, and was to have conducted the national meeting of the section in Louisville, Ky., in October. When the Brown County Traffic Safety Council was established, Mr. Banta allied himself actively with it, and, at the time of his death, was its president. He was a member of the Knights of Pythias.

Surviving are his widow, formerly Miss Harriet Brooks, of Shawano, whom he married in 1910; four sons: Dean, Jack, Jesse and Robert, all at home; three sisters: Mrs. McLaughlin, Shawano; Mrs. A. W. Jarrett, East Orange, N. J., and Mrs. George Etscheid, Chicago, and three brothers: H. C. Banta, Milwood, Wash., Will, Shawano, and Ed, Mountain.

Praise for Mr. Banta was expressed by J. M. Conway, president and general manager of the Hoberg company, who said: "Mr. Banta was one of our most loyal, conscientious and dependable employes. He was not only conscientious in his work, but was always willing to lend a helping hand to his fellow men. These requisites of character endear him to all his friends and business associates."

Joseph E. Rivers

[FROM OUR REGULAR CORRESPONDENT]

FITCHBURG, Mass., August 26, 1935—Joseph E. Rivers, aged 47, an expert paper maker for Crocker, Burbank & Co. Association, died suddenly August 21 at Burbank Hospital. He lived at 187 Fairmount street. He had served several years as an election official in Ward 2B in Cleghorn. He was stricken while visiting in Connecticut and rushed to Burbank Hospital here.

Mr. Rivers was the son of the late John A. Rivers, former city councillor and street commissioner. He was a member of the Artisans Society.

There are living his widow, Mrs. Delina (Elliot) Rivers; two sons, Raymond and Alfred Rivers; his mother, Mrs. Malvina Rivers, all of this city; and three sisters, Mrs. John B. Aubuchon, of this city; Sister Mary Eulalia, of Alaska, and Sister Mary Magdelena of Canada.

William E. Herrlinger

CINCINNATI, Ohio, August 26, 1935—William E. Herrlinger died at his home here on August 19 following a heart attack. He was 67 years old.

Mr. Herrlinger had been treasurer of Herrlinger & Co., wholesale paper and twine manufacturers, for many years.

He is survived by his widow, a daughter, son, two brothers and a sister, all of Cincinnati.

Container Corp. Declares Dividend

Container Corporation of America Board of Directors have declared a $7.00 per share dividend on the 7 per cent preferred stock payable October 1, to stock of record September 11.

IMPROVES OPACITY IN LIGHTWEIGHT STOCKS OF EVERY TYPE

TAPPI Fall Meeting
Philadelphia and Atlantic City
September 18, 19, 20, 21.

● PUBLISHERS, advertisers and manufacturers of paper-wrapped products are constantly demanding light-weight stocks that print without *show-through*.

This means that paper producers must increase the opacity of their sheets without increasing the weight.

Thanks to Titanox-A (Titanium Dioxide) this is now easy to accomplish.

Titanox-A has the highest index of refraction of all the white pigments and a very small amount produces an opaque sheet of exceptional whiteness and brightness.

Moreover Titanox-A presents no difficulties in use. It is well retained when employed as a beater furnish addition. It is readily dispersed and suspended in the surface size or coating mix. And because it is chemically stable and inert there are no unfortunate reactions resulting in discoloration of the sheet regardless of pH value.

Our paper technicians are always at your service. They will be glad to advise you concerning the best methods of opacifying stocks of every kind with Titanox pigments.

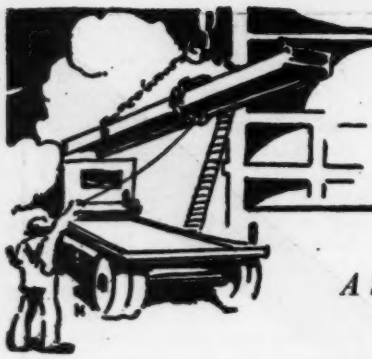
●

TITANIUM PIGMENT COMPANY, INC.

Manufacturers of TITANOX-A (*Titanium Dioxide*)
TITANOX-B (*Titanium Barium Pigment*)
TITANOX-C (*Titanium Calcium Pigment*)

111 Broadway, New York, N.Y.; Carondelet Station, St. Louis, Mo.; National Lead Co. (Pacific Coast Branch) 2240 24th St., San Francisco, Calif.; Canadian Distributor: Wilson, Paterson, Gifford, Ltd., 3552 St. Patrick St., Montreal; 132 St. Helen's Avenue, Toronto.

TITANOX



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Keokuk, Iowa—The Iowa Fiber Box Company, manufacturer of fiber boxes and containers, is considering early construction of new addition to plant for increase in present capacity, to be two-story, estimated to cost close to $35,000, including equipment. It is proposed to ask bids on general contract in the fall. M. G. Sterne is secretary.

Albany, N. Y.—The A.P.W. Paper Company, 1273 Broadway, manufacturer of tissue papers, etc., is said to be arranging early call for bids on general contract for extensions and improvements in Liberty mill, where production will be concentrated largely in future, replacing operations at North Albany plant. A two-story and basement unit, 200 x 300 feet, will be given over to different branches of operation, including storage and distribution. Entire project is estimated to cost over $400,000. Johnson & Wierk, Grand Central Terminal Building, New York, N. Y., are consulting engineers.

Carthage, N. Y.—The Joy Products Corporation, recently organized with capital of $50,000, plans operation of local plant for manufacture of a line of paper goods. New company is headed by James G. and Gwen L. Bussing, and William A. Peck, all of Carthage.

Panama City, Fla.—The Southern Kraft Corporation, manufacturer of kraft paper stocks, etc., has active work in progress on new waterfront terminal, previously referred to in these columns, and expects to complete the project in the fall. A new dock, 500 feet long, is being built, and will be provided with two railroad tracks for loading and unloading facilities. A one-story storage and distributing building is being erected, to be 120 x 300 feet, and will be equipped with mechanical-handling apparatus. Structural steel for building and other features of project are being furnished by the Stupp Brothers Bridge and Iron Company, St. Louis, Mo. Doullut & Ewin, Inc., New Orleans, La., is engineer and general contractor for the project, which is reported to cost over $150,000. Company is a subsidiary of the International Paper Company, 220 East Forty-second street, New York, N. Y.

Indianapolis, Ind.—Fire recently damaged a portion of plant of the Indianapolis Paper Container Company, 217 West Tenth street, manufacturer of folding paper boxes and containers. An official estimate of loss has not been announced. The damage will be replaced.

Battle Creek, Mich.—The Michigan Carton Company, manufacturer of paper boxes and containers, has awarded general contract to Dean Murray, Battle Creek, for construction of new steam power house at plant, recently noted in these columns, including new 50-foot steel stack. Work will be placed under way at once. Entire project is estimated to cost close to $85,000, more than one-half of which will represent equipment installation. Shreve, Anderson & Walker, Book Building, Detroit, Mich., are architects.

Washington, D. C.—Government Printing Office has secured an appropriation of $5,885,000 for construction of large addition, majority of new structure to be used for paper storage and distribution, equipped with complete mechanical-handling facilities for this purpose. The structure will be eight-story and basement, 175 x 384 feet, located at North Capitol and Eighth streets, totaling about 484,000 square feet of floor space in all. The appropriation noted includes fund for land acquisition. It is proposed to ask bids on general contract in near future. David Lynn, Architect of the Capitol, will be in charge.

Pittsburgh, Pa.—The F. J. Kress Box Company, 1 Twenty-eighth street, manufacturer of corrugated paper boxes and containers, has taken title to tract of about 2 acres of land at Railroad and Twenty-eighth streets, to be used in connection with plant operations and development. It is understood that a portion of site will be used for future expansion.

Ladysmith, Wis.—Fire recently damaged a portion of power house at local mill of Peavey Paper Products Company, manufacturer of tissue, crepe and kindred paper stocks. The smoke stack sustained a substantial loss, estimated at close to $15,000. Rebuilding will be placed under way at early date.

Wilmington, Del.—The Cleveland Container Company, 10630 Berea road, Cleveland, Ohio, manufacturer of paper and fiber boxes and containers, has active work under way on establishment of new branch plant at Wilmington, where company recently took over the former works of the Artillery Fuse Company, Garasche lane, recently noted in these columns. Buildings are being remodeled and reconditioned, and equipment installed. It is proposed to have the plant ready for service at early date. Large capacity will be developed.

New Companies

New York, N. Y.—Vitale Brothers, Inc., has been incorporated with capital of $20,000, to deal in paper pulp and fiber products of various kinds. The incorporators are Vicenzo, John and Frank Vitale, all of 561 Water street, New York.

New York, N. Y.—Louis Tresback, Inc., has been incorporated with capital of $100,000, to deal in paper and paper products of various kinds. The incorporators are Louis F. Tresback, Prior Court, Cradell, N. Y., and William R. Loughridge, 419 West 156th street, New York. New company is represented by Emil M. Wulster, Peoples Trust and Guarantee Building, Hackensack, N. J.

Asbury Park, N. J.—South Shore Paper, Inc., has been organized with capital of $50,000, to deal in paper goods of various kinds. New company is represented by

Max M. Barr, 730 Cookman avenue, Asbury Park, attorney.

Detroit, Mich.—Graphic Arts Process Corporation has been organized as an interest of Wayne Colorplate Company, 41 Burroughs avenue, Detroit, with capital of $100,000, to operate a local paper converting plant, including lithographing works.

New York, N. Y.—Davis & Aal Company, Inc., has been chartered with capital of 300 shares of stock, no par value, to deal in paper products of various kinds, wood pulp, etc. Incorporators include Roland M. Davis and John W. Guibord. Company is represented by Bernard J. Legunn, 565 Fifth avenue, New York.

Newark, N. J.—Furman Tissues, Inc., has been incorporated with capital of $10,000 to deal in tissue paper and allied paper stocks. New company is represented by Henry Harris, 1060 Broad street, Newark, attorney.

Brooklyn, N. Y.—Progress Cork Company, Inc., has been incorporated with capital of $10,000, to deal in corkboard, corkwood and kindred products. Harold M. Harkavy is one of the incorporators. New company is represented by Carl A. Kahn, 185 Montague street, Brooklyn, attorney.

New Brown Air Operated Controllers

On its 75th anniversary, the Brown Instrument Company announces a new and complete line of Recording and Indicating air operated controllers for temperature, flow, pressure and liquid level.

The most outstanding of these is the Brown "Air-o-Line," a controller with 1 per cent to 150 per cent throttling range and automatic reset. This control system recognizes and corrects for the magnitude, rate and direction of departure from the control point. These instruments are capable of full automatic control and will maintain a process at the control point within extremely close limits.

Radically new is the simplicity of the means provided in the "Air-o-Line" for "tuning in" the controller to the specific process characteristics without interruption to automatic control. Throttling range and automatic reset dials are instantly adjustable with a screw driver, without removing the chart plate.

Indicating and recording thermometer-type temperature controllers are available for temperatures within limits of −40 degrees F. and +1200 degrees F. Potentiometer-type controllers are available for temperatures within limits of −300 dgres F. and +3400 degrees F.

Two types of flow controllers and liquid level controllers are also offered; the Inductance Bridge Type and the Mechanical Type. Thus, for the first time, the remote operating characteristics of the electric flow meter and the flexibility of air operated control are combined in one controller.

Indicating and recording pressure controllers are available in ranges from 30 inches vacuum to 3000 lbs. per square inch pressure.

In addition to the "Air-o-Line," three other types of Brown Air Operated Controllers are included in the new line. These are, the Brown "Full Throttler," a controller with 10 per cent to 150 per cent throttling range and manual reset; the Brown "Throttler," a controller with 1 per cent to 10 per cent throttling range and manual reset; and the Brown "On-Off Controller," a controller for two-position service.

The simplicity and outstanding performance of this new line of Brown Air Operated Controllers, with their interchangeable control units and "ready-at-hand" adjustments, make them a revolutionary contribution to the Refining, Chemical, Food Products, Textile and other diversified industries.

Catalog No. 890 fully describes all types of Brown Recording and Indicating Air Operated Controller and will be sent upon request. Write the Brown Instrument Company, Wayne and Roberts avenues, Philadelphia, Pa.

Bantam Ball Bearing Catalogue

The Bantam Ball Bearing Company has recently published a new general catalogue, their Manual No. 12, which while concise gives a thorough treatment of load carrying capacities, proper mountings, lubrication and other pertinent information on ball and roller bearings. In compiling this information the company was able to draw heavily on their years of experience in the field of anti-friction bearings since they are pioneers in this field. This intimate knowledge of all types of ball and roller bearings is reflected throughout the catalogue.

The new Bantam catalogue is of the loose leaf type with attractively embossed cover. For ease and convenience in reference the catalogue is divided into sections as follows: Tapered Roller Bearings, Straight Radial Roller and Roller Thrust Bearings, Quill Roller Bearings, Printing Press Bearings, as well as section devoted to Engineering Data.

The section on Tapered Roller Bearings lists over 1500 bearings in detail and other types are shown which can be furnished in standard or special sizes. A table giving safety factors for 33 different types of service as well as a concise speed capacity chart for all mounting fits for cups and cones is also given. Bantam Quill roller bearings are described in considerable detail in a twelve page section, particularly in regard to their compactness and unusual load-carrying capacity.

A number of charts indicating the load carrying capacity of Bantam Quill rollers are reproduced together with formulas for determining these capacities. This section is also clearly illustrated by means of line drawings and half tone reproductions of typical mountings, load charts service.

Probably one of the most interesting bearings illustrated is the square box bearing which replaces ordinary bronze boxes without any change in the frame of the press. Another type of bearing illustrated in this book which has received a great deal of favorable attention from bearing users is the Bantam Reciprocating ball bearing which as the name implies reciprocates while it rotates. The last section of the catalogue is devoted to engineering data on ball and roller bearings and gives a very complete treatment of the subject.

The Bantam Ball Bearing Company of South Bend, Ind, will be pleased to send a copy of this new general catalogue, Manual No. 12 to operating officials, engineers and designers in the pulp and paper industry.

New Kennedy Valve Representative

The Kennedy Valve Manufacturing Company announces the appointment of O. R. Lane as its representative in Oklahoma, Arkansas, Tennessee, Eastern Missouri, and Southern Illinois and Indiana, with headquarters at 455 Paul Brown Building, St. Louis, Missouri.

Mr. Lane, who has had extensive experience in this field, will handle the sales of Kennedy Iron Body and Bronze Gate, Globe, Angle and Check Valves, Malleable Iron and Bronze Screwed Pipe Fittings, Cast Iron Fittings and Flanges, and Fire Hydrants for industrial plants, oil refineries, buildings, and municipalities.

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FOREIGN PAPER TRADE SUBSTANTIALLY INCREASES IN FIRST HALF

Exports of paper and paper products from the United States during the first half of the current year show a substantial increase both in volume and value over the corresponding period of last year, according to a report just made public by Phillips A. Hayward, chief of the Forest Products Division, Bureau of Foreign and Domestic Commerce. Compared with the last six months of 1934, the total value shows a slight decrease, but it is questionable if an actual increase in volume did not take place since the majority of the items on the schedule were substantially larger. Furthermore, in most instances the average export price during the past six months was decidedly under either the July-December or the January-June average during 1934.

Among the items showing consistent increases over the past eighteen months are: newsprint, cover papers, greaseproof and waterproof papers, surface-coated papers, writing papers, fiber insulating and wall boards, and paper hangings. Exports of book papers, wrapping papers, boxboards, boxes and cartons, and paper bags show some improvement over a year ago, but were under the figures recorded for the last six months of 1934. The same holds true for such minor items as towels and napkins, filing folders and other office forms, blotting paper, and toilet paper. Shipments of overissue news, which are a leading item on our export schedule, dropped from 47,574 short tons during the first half of 1934 to 46,579 tons during the second half and to 42,344 tons during the first six months of the current year. Total exports of paper and paper products from the United States during this period were valued at $9,896,724, as against $9,984,188 during the preceding six months and $8,889,553 during the first half of 1934.

Exports of paper base stocks during the first half of 1935 were also slightly under those of the preceding six months but exceeded the total for the corresponding period in 1934 by 75 per cent. Sulphite pulp comprises the bulk of these shipments, accounting for $4,190,373 out of the total of $5,011,049 during the current year. The volume of shipments, 74,369 tons, was 14 per cent lower than for the 6 months ended December 31, 1934, but at the same time was 80 per cent above the first six months of the year. The remaining shipments in this group consist largely of rags and other waste for paper-making and pulpwood. Small amounts of soda and other pulp are also exported.

Imports of paper and paper products into the United States on the whole, according to Mr. Hayward, have not shown much change over the past eighteen months. Total receipts for the period January 1 to June 30, 1935, were valued at $43,283,178. This amount represents a decrease of 3 per cent compared with the preceding six months but an increase of 4 per cent compared with the first six months of 1934.

Receipts of standard newsprint, which account for nearly 90 per cent of these imports, totaled 1,100,124 short tons during the first six months of the current year. This is an increase of 3½ per cent compared with the corresponding six months in 1934 but a decrease of 4 per cent compared with the second half of the year.

Kraft wrapping paper, boards, and cigarette papers account for the greater part of the remaining incoming shipments. Imports of kraft paper, during the first half of this year have more than doubled those of either of the six months periods of last year. Imports of boards, however, have been uniformly lower, while receipts of cigarette papers exceeded those of the preceding six months, but were 4 per cent less than during the first half of 1934.

Imports of paper and paper products, exclusive of newsprint, on the whole were on a level with last year, the total, $5,199,698, exceeding that for the last six months of the year by $144,756 and dropping below that for the first six months of the year by $5,008.

Imports of paper base stocks into the United States during the past eighteen months have shown considerable fluctuation, particularly in mechanical groundwood, sulphite and unbleached sulphate (kraft) pulps, which make up the bulk of these receipts. Thus imports of mechanical groundwood and unbleached sulphate during the first six months of 1935 were 2 per cent and 6 per cent respectively above imports for the first half of 1934 but were 20 per cent and 10 per cent under the amounts recorded for the last half of the year.

Imports of bleached sulphite were 7 per cent under last year's receipts for the corresponding period, but exceeded receipts for the second half of the year by 5 per cent. Imports of unbleached sulphite were lower than during either the first or second half of 1934. Imports of other classes of pulp, paper-making rags, and other waste, on the other hand were uniformly larger than during last year. Imports of pulpwood exceeded those for the corresponding period of 1934 by 41 per cent, but were 48 per cent lower than during the second half of the year.

Total imports in this group were valued at $33,944,800 a decline of 16 per cent compared with the preceding six

months but an increase of 10 per cent over the corresponding period in 1934. The decline as compared with the last half of 1934 may be ascribed partly to the decline of 48 per cent and 9 per cent respectively in pulpwood and wood pulp receipts and partly to the general lowering in prices which took place early this year.

Champion Coated Consolidation

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, August 26, 1935—Much interest has been manifested in the merger of the Champion Coated Paper Company, of Hamilton, Ohio, and its subsidiary, The Champion Fibre Company, of Canton, following the details previously presented in the PAPER TRADE JOURNAL.

Under the plan the companies are retiring all of the outstanding common and preferred stocks, notes and bonds issued by the two corporations, and are issuing new securities under the consolidation.

The Hamilton corporation is one of the largest paper manufacturers in the United States, having assets in excess of $36,000,000, of which the property assets were more than $27,361,000 and surplus of $7,183,466. It was founded by the late Peter G. Thomson and has been enlarged and successfully conducted by his sons.

The Champion Fibre Company, which was organized some years after the Hamilton coated paper plant was established, had an authorized capital of $1,500,000 in common stock, all of which was owned by the Champion Coated Paper Company, and its assets included 92,814 acres of pulpwood timber in the Great Smoky Mountain National Park; a kraft pulp plant and paper mill at Canton, N. C. (erected in 1922), and a lime plant in Knoxville, Tenn., which was built in 1923.

The company recently installed a 242-inch paper machine which gives it a combined daily output of 220 tons of finished paper product and 350 tons of pulp mill product. The company also produces sulphite soda, tannic acid, and kraft pulp. Under the plan of consolidation the Champion Paper Company will have offices in Hamilton and Canton.

All of the preferred issues of both companies were refinanced at a lower rate of interest.

The Thomson interests owned and controlled the two companies through their holdings of common stock. The authorized common stock of the Champion Coated Paper Company amounted to $6,800,000, and in addition an authorized issue of $4,000,000 in 7 per cent cumulative special preferred stock of which $2,500,000 was outstanding. Champion Fibre had in addition to its authorized common stock, an issue of $2.500.000 7 per cent cumulative preferred, of which $2,219,000 was outstanding.

Germany Imports Less Pulpwood

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., August 28, 1935—Less pulpwood was imported into Germany during the first 5 months of 1935 than the corresponding period last year, which, coupled with the increase in the production of paper and board, means that more domestic pulpwood is being used, according to reports from W. S. Jesien, American Consulate General, Frankfort-on-Main. Imports of this article during the first 5 months of 1935 totaled 535,040 metric tons as against 582,612 tons last year, a decline of 8 per cent. Czechoslovakia and Poland have been the principal sources of supply for German pulpwood importations, Russia, Austria, and Latvia supplying the remainder.

Weekly Production Ratio Report

Reports to the American Paper and Pulp Association show the following Over-All Production Ratios for the designated periods.

	Reporting Mills		Total Production
	Number	Capacity	Ratio
September, 1934	292–299	.....	59.4%
October, 1934	297–394	.....	64.7%
November, 1934	385–399	.....	61.7%
December, 1934 (a)	396–404	.....	62.1%
January, 1935	397–411	.....	65.8%
February, 1935	407–409	.....	70.0%
March, 1935	406–408	.....	70.5%
April, 1935	405–407	.....	70.0%
May, 1935	379–407	.....	69.4%
June, 1935	355–374	.....	72.3%
July 1935 (b)	355–356	.....	67.8%
*Week ending August 3, 1935	348	145,012	71.1%
*Week ending August 10, 1935	340	143,405	69.6%
*Week ending August 17, 1935	258	103,828	67.2%

Statistics showing the number of mills reporting by ratio groups are given below:

	Number of Mills Reporting — Week ending		
Ratio Limits	August 3, 1935	August 10, 1935	August 17, 1935
0% to 50%	130	110	88
51% to 100%	218	230	170

* Subject to revision.

According to reports from the National Paperboard Association per cents of operation, based on "Inch-Hours" were as follows:

	September, 1934....62 per cent		June 15, 1935....65 per cent	
	October, 1934....63 per cent		June 22, 1935....65 per cent	
	November, 1934....56 per cent		June 29, 1935....69 per cent	
(a)	December, 1934....53 per cent		July 6, 1935....39 per cent	
	January, 1935....61 per cent		July 13, 1935....63 per cent	
	February, 1935....67 per cent		July 20, 1935....68 per cent	
	March, 1935....67 per cent		July 27, 1935....68 per cent	
	April, 1935....61 per cent		August 3, 1935....66 per cent	
	May 1935....61 per cent		August 10, 1935....64 per cent	
	June 8, 1935....61 per cent		August 17, 1935....65 per cent	

(a) Capacity and percentage data exclude December 25, 1934.
(b) Capacity and percentage data exclude July 4, 1935.

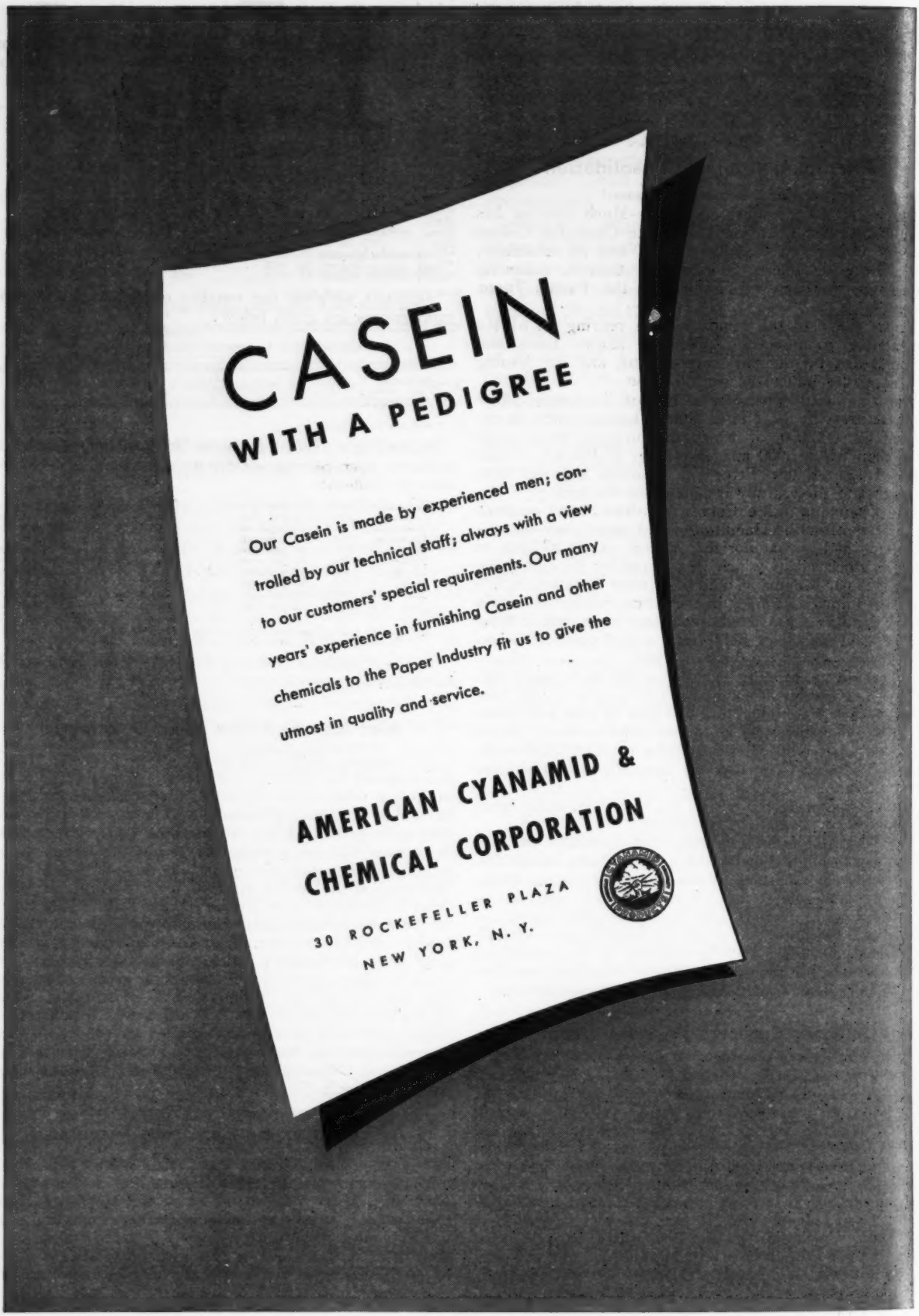
Revised statistics covering delinquent mill returns will be shown in later reports.

Alec Macvie Finds Mills Optimistic

KALAMAZOO, Mich., August 26, 1935—Alec W. Macvie accompanied by Mrs. Macvie, have returned from a trip in Canada where they visited the district around Fort William, Port Arthur and Nipigon, also the various paper and pulp mills in that district. At the Great Lakes Paper Company they had the privilege of seeing the largest paper machine in the world which machine three days previously had reached the record production of 200 tons of newsprint in 24 hours. Mr. Macvie reports that he found most of the mills running good time and an optimistic feeling held by nearly everyone. They also visited the paper and pulp mills in Northern Michigan on their return from Canada where they found conditions greatly improved. Mr. Macvie has his headquarters in Kalamazoo, where he has represented Parsons & Whittemore, New York for many years with their various grades of wood pulp. He also represents the American Cyanamid and Chemical Corporation on alum and the Paper Makers Importing Company on English China Clay.

Arthur Bull Retires from Fitchburg

BOSTON, Mass., August 26, 1935—Arthur Bull, executive vice-president of the Fitchburg Paper Company of Fitchburg, Mass., and an officer of the Merrimac Paper Company of Lawrence, has severed his connection with the Fitchburg concern after some 22 years of association with them during which he rose through various positions to purchasing agent and in recent years became executive.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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

The Drive For A Modern Paper Machine

By F. M. Roberts[1]

Even as late as a year or so ago, it was common to concede that if arrangements were provided in a paper-machine to assure constant speed of the machine as a whole after the speed had been set, then the most that could be done by a drive builder had been done—the operating speed was provided for. However, a more careful observation of paper-machine operation demonstrates the extreme fallacy of this conclusion. There are really three separate and distinct speeds to be considered. First, the speed of the whole machine during the production of paper; second, the relative speed of the sections; and third, the rate of acceleration or deceleration from one fixed speed to another.

The modern paper machine should be equipped with a drive which provides accurate regulation of the first two speeds and equalization to obtain uniform acceleration and deceleration. With these requirements in mind, the General Electric Company has designed a sectional drive for paper machines. In the following discussion the writer will present the considerations upon which the design of this type of drive is based and will explain how constant operating speed, constant relative speed, and uniform acceleration and deceleration are made possible, and also how this drive and other modern developments used in connection with it assure quality, reduce outage time, simplify operation, and cut maintenance costs.

General Considerations

The paper manufacturer, like all other industrial executives, is continually "cleaning house" in an effort to increase profits. There are two general ways in which this objective can be attained: (1) by improving the present product so as to make it more attractive to the market and thus increase production; and (2) by reducing costs so as to increase the margin of profit on the present production.

The product may be improved by modernizing the refining process or by more careful regulation of the manufacturing process; and production may be increased by the installation of additional equipment or by speeding up the old. Economy of operation is seriously affected, of course, by problems of maintenance, and it should be remembered that savings resulting from increased speed or improved operation in one department must not be offset by increased maintenance in another.

Whatever steps are taken to increase the income and profits, two facts are apparent—the product of the paper machine must be of uniform quality and the quantity produced by the machine must be uninterrupted and reliable. No matter how much the stock preparation process is improved—and many advances have been made in recent years to improve the preparation and refinement of stock—no matter how modern and efficient the paper machine itself is, if constant speed of the machine as a whole during operation, together with constant relative speed of the sections and uniform acceleration and deceleration of all sections, cannot be relied upon, the maximum quality and quantity and the largest profits cannot be obtained.

It is, of course, true that the most important consideration is to hold constant operating speed and relative speed, but it is also true that there is considerable time spent in operating the machine from one fixed speed to another and a drive must be able to operate the paper machine with a uniform rate of acceleration and deceleration. The reason for this is that, in many mills, production of sheets of a number of different weights (for which the stock is the same) is accomplished by leaving the stock production equipment set and, without touching the slice or headbox, adjusting the weight by changing the speed. In fact, on practically all machines, even newsprint, some weight adjustment is accomplished by a speed change of the machine as a whole. Since this method of weight adjustment is used, serious consideration must be given to the drive to make sure that provision is made for uniform acceleration and deceleration of all sections when the speed of the machine as a whole is being changed, in order to prevent breaking of the sheet during the speed change and thus assure continuity of operation.

Modern Drive Design

Coordination of Equipment

In the first place, the modern electrical paper-machine drive is not a mere collection of motors and generators thrown together in any haphazard fashion whose different characteristics are to be compensated for by speed regulators. The well-designed drive is equipped with motors and generators which have good inherent regulation; it is designed as a unit, regulators being used only to compensate for load differences which occur on the machine as a whole or on the individual sections. In addition, the mechanical design of each section of the paper machine is studied, and particular attention is given to the WR^2 or flywheel effect to make sure that the sec-

[1] Industrial Engineering Dept., General Electric Company, Schenectady, N. Y.

tion motors will provide uniform acceleration and deceleration.

Operating Speed of Entire Machine

The regulating element of the General Electric drive, which controls the speed of the entire paper machine, is the Type GFD speed regulator (Fig. 1). This regulator is extremely accurate in operation and is free from contact difficulties. It is in effect an electrical sentinel which watches the paper-machine speed with micrometer-like eyes, and adjusts the generator voltage so that only minor speed changes occur on the paper machine. With this type of speed regulator for the paper machine, no voltage regulator is required for either the generator or the exciter. Proper compensation is provided in the pilot generator, the exciter, and the regulator itself so that temperature changes in the mill have no appreciable effect upon the speed of the paper machine. This speed regulator, governing as it does the master section of the paper machine (usually the drier section) provides close control of speed and weight. It furthermore assures that insofar as machine speed is concerned, a minimum of breaks will result. However, no matter how well this regulator or the main generator may be designed and how well or accurately they may operate, they cannot hold the speed of the various sections together with variations in load or during acceleration and deceleration.

Relative Speed of Sections

The use of a G-E Type GPD Compensated Selsyn speed regulator on each section of the paper machine provides for speed regulation and adjustment of the sections as may be required to take care of load changes of the individual sections and also makes provision for an 18 per cent draw adjustment in each section of the machine, which is sufficient to cover changes in roll diameter due to grinding. This regulator is compensated to give uniform motor response at any paper-machine speed. Only the small cone-pulley assembly required for draw adjustment is mounted in the paper-machine room, the regulator itself being mounted on the control board (Fig. 2) where it properly belongs. At a fixed paper-machine speed, these regulators hold the relative speed of the paper-machine sections within very close limits. Unfortunately, the task of holding the relative speeds of the sections constant when the speed of the paper-machine as a whole is being changed is beyond the capacity of any speed regulator. Some additional method or means must be included to assist the regulators during the transition.

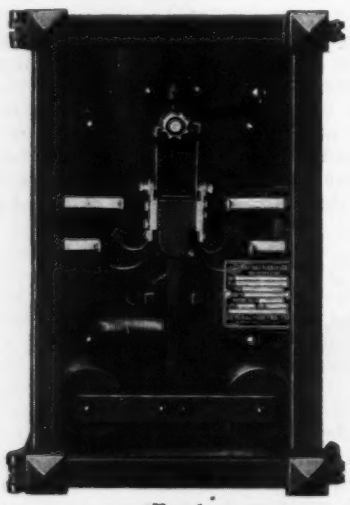

Fig. 1

Type GFD speed regulator, used to control the speed of the paper machine as a whole.

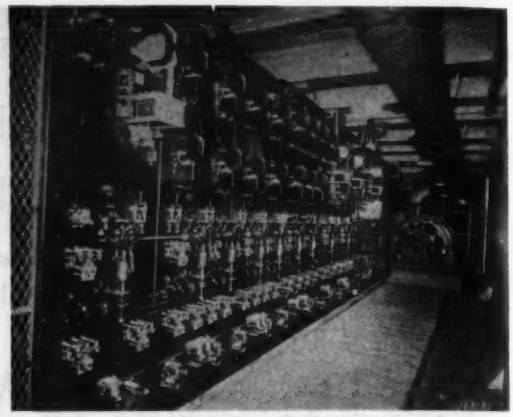

Fig. 2

Control panel for sectional paper-machine drive.

The Acceleration Problem

Like the people Mark Twain tells us about who always complained about the weather but never did anything about it, a great number of engineers have long been aware of the widely different inertias of the various sections of a paper machine. However, until recently builders of mechanical and electrical drives ignored the problem while paper makers more or less patiently suffered its inconvenience.

Now let us see what the dimensions of the problem are. Assume, for example, that in a paper machine 156 inches wide one of the dryer sections has twenty 60-inch-diameter rolls and four 48-inch-diameter rolls, and that next to this dryer section is a breaker stack. Then the WR^2 of the dryer section will be approximately 1,240,000 pounds-feet squared, whereas the WR^2 of the breaker stack will be of the order of 26,000 pounds-feet squared—a ratio between the two WR^2s of about 47 to 1. The energy of rotation of any mass varies directly with the WR^2 so that, in order to change the speed of the machine 1 foot per minute, the drive must put 47 times as much energy into the dryers as it is required to put into the breaker stack.

However, the friction load of the dryer and breaker-stack sections we have selected, at 1,000 feet per minute, would be 56 hp. for the former and 19 hp. for the latter —a ratio of only about 3 to 1. For this reason, if belts or motors are applied to drive these sections in proportion to their 3:1 horsepower requirements, the relative speed of the drier during acceleration will be slower than that of the breaker stack because the dryer belt or motor cannot be expected to supply 47 times as much energy in the same time as the breaker-stack belt or motor. As a result, during a speed change of the machine, the sheet will either run slack and wrinkle or draw tight and break.

A condition such as that just described is not an exception by any means; it is, in fact, encountered on nearly all paper machines. Why then do we succeed during speed changes in keeping paper on the machine at all?

On a mechanical drive, the belts must be kept exceptionally tight on the dryer or high-inertia sections, and speed changes must be made slowly. On electrical drives, speed changes have to be made slowly and the regulators have to take care of speed differences as best they can.

The mechanical drive does well enough in its way, and belts on cone pulleys transmit power satisfactorily

with constant load and at constant speed, but at best a cone pulley is a poor surface for a belt. When the load is suddenly increased, as it does when the machine speed is being changed, slippage is likely to occur and belt wear and tear with increased maintenance results. On an electrical drive, the condition has been better taken care of because the speed regulators tend to hold the relative speed of the sections constant. However, as previously pointed out, it is no longer good practice to put motors and generators on a machine and expect the regulators to provide for differences in inertia.

SOLUTION

The solution of this problem of uniform acceleration and deceleration is not so difficult as it might at first appear. It is obvious that the object is to design a drive which supplies energy for acceleration and absorbs energy of deceleration in proportion to the inertia or WR^2 of the sections. In other words, the product of section WR^2 and motor armature resistance should be almost a constant.

The reason for this is quite simple. On an electrical sectional drive the main generator may be considered as a reservoir of electrical energy. Then its voltage is the pressure or "head" and each motor is a valve which controls the flow of energy from the reservoir into the section to which it is attached. The effect of motor armature resistance is like the opening of a valve—the greater the resistance, the less the energy that can flow; the lower the resistance, the greater the amount of energy that can flow for any change of generator voltage or "pressure."

It is obvious that the product of WR^2 must be equipped with motors having the lowest armature resistance and vice versa. It is only by driving the sections of the machine with separate motors, selected with this fundamental principle in mind, that uniform acceleration and deceleration with low maintenance can be obtained.

Let us consider the same machine as before—assuming a speed range of 500-1,000 fpm. If we select motors on a horsepower basis only, the motors for the two specified sections would be as follows:

Section	Motor	Arm. Resist. R	WR^2*	$WR^2 \times R$ (K)
Breaker Stack	20 Hp.	.152	2,500	380
Dryer	60 Hp.	.042	21,400	899

*Note—WR^2 is referred to motor speed, i.e. 1150 rpm.

The above figures show the necessity for equalization if uniform acceleration is to be obtained. However, another consideration enters into the practice—that is, drier starting torque. It is usual to consider that the dryers require 450 per cent starting torque and in consequence a larger motor must be applied to supply this torque than would otherwise be necessary. In this case, a standard 100-hp. motor will be required to provide for drier starting, and with this larger motor the equalization is as follows:

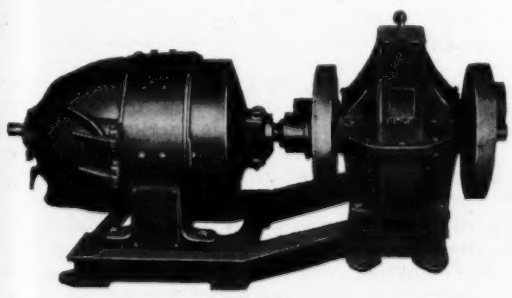

FIG. 3

G-E direct-current motor and gear unit with flywheels for equalizing the $WR^2 \times R$ at the driving units so that uniform acceleration and deceleration are obtained.

FIG. 4

Handwheel-operated draw-shifting Selsyn which enables paper-machine tender to adjust draw from the front of the machine.

Section	Motor	Arm. Resist. R	WR^2	$WR^2 \times R$ (K)
Breaker Stack	20 Hp.	.152	2,500	380
Dryer	100 Hp.	.022	21,400	470

Obviously, more nearly uniform acceleration will result with this larger dryer motor than with the smaller motor. However, the task of equalizing this condition is not complete and the designer has a choice of three ways to correct the inequality:

1. The dryer motor may be made still larger, although this requires the use of a 125-hp. motor, at a considerable increase in cost.

2. He may add resistance to the breaker-stack motor armature, but this method is undesirable because it spoils the inherent speed regulation of the breaker-stack motor.

3. Flywheels may be added to the breaker-stack motor and gear unit.

In the example given, the last method (No. 3) would be the best to use. This would require a flywheel having a WR^2 of 600 pounds-feet squared. Other cases on other machines may require the use of larger motors on some sections and flywheels on others. Under no circumstances should the resistance of the armature circuit of a section motor be increased beyond that necessary for good speed regulation. Armature resistors may be used to make the final adjustment, when the armature resistance is lower than required.

Fig. 3 illustrates the type of driving unit built by the General Electric Company for operating paper machines, on sections where flywheels are desirable. The high-speed shaft of the gear unit makes an admirable place for such flywheels because the size of the flywheel is inversely proportional to the square of the speed, so that the higher the shaft speed, the smaller the wheel that is required.

Thus, we see that the paper machine does yield to analysis and that a drive can be designed to provide for the greatly different characteristics of the various sections. The modern electrical sectional drive is equipped with motors and generators which have the best inherent speed and voltage regulation available. The Type GFD speed regulator which holds the speed of the entire machine is accurate to a small fraction of one per cent. The Type GPD Compensated Selsyn regulators on each section of the machine hold the speeds of the sections constant with wide variations in load, and by equalizing the $WR^2 \times R$ at the driving units uniform acceleration and deceleration are obtained.

Modern Developments Improve and Simplify Operation

Speed regulation and inertia equalization provide for uniform quality and quantity production, but other modern developments have been made by the General Electric Company which mark advances in the provision of means to simplify the control of the paper machine.

Among the most important of these developments is a new method of draw adjustment. The Type GPD speed regulator is provided with a handwheel-operated draw-shifting Selsyn (Fig. 4) which enables the machine tender to adjust the draw from the front of the paper machine and at the same time, it provides him with knowledge of the actual draw change he has made.

For some paper machines, a system of "progressive" draw adjustments has been developed. For each section of the machine, in addition to the manual draw-adjusting Selsyn, a selector switch is mounted on the front of the paper machine. Under normal operating conditions, the selector switch is so set that the manual draw-adjusting Selsyn controls the draw on its own section only. If the selector is put in the alternative position usually marked "progressive," the draw-adjusting Selsyn controls the draw on its own section and all sections equipped with regulators which follow towards the dry end of the machine. Thus in one operation, the machine tender may take up slack in the sheet all down the machine. This provision saves the paper makers time and energy and by so doing results in improved operation.

Conclusion

These refinements of the electrical sectional drive mark a real advance in the design of paper-machine drives. Fundamental principles have been simply applied to the solution of difficult problems. In fact, simplicity is the keynote of the electrical drive of today. Gone are vibrating contacts, oil dashpots, regulating devices in the paper-machine room, clutches, line shafting, and belting.

The drive of today is designed to eliminate guesswork from paper machine operation. Constant speed spells constant weight and uniform quality. Speed regulation and inertia equalization result in the reduction of outage time and in lower maintenance. Manual and manual-progressive draw adjustments result in improved and simplified operation and in reduced maintenance.

New Oil-Proof V-Belt—The "Daycoil"

The first completely Oil-Proof V-Belt ever developed for general industrial use has just been announced by A. L. Freedlander, vice-president and factory manager of The Dayton Rubber Manufacturing Company, Dayton, Ohio. "The new belt will be marketed under the name 'Daycoil.' Its principal field of application will be the machine tool and other industries where excessive oil in connection with power transmission has long been a problem," Freedlander said.

"The 'Daycoil' V-Belt is an advanced step in chemical and power transmission engineering and was developed over a period of years. First experiments with synthetic resins were started by the company many years ago. Synthetic rubber, however, is a general term and is but one of several synthetic materials used in the construction of the 'Daycoil' casing. Hundreds of compounds along with synthetic rubber were tried over a period of years before 'Daycoil' was developed and accepted as having all of the ideal properties to completely oil-proof a V-Belt. Patent applications have been filed for some time covering this original oil-proof V-Belt development.

"The 'Daycoil' V-Belt carries the same laminated construction principles as the regular Dayton Cog-Belts for general transmission applications, plus, however, the specially designed casing of the new synthetic compound to resist oil.

"Dayco, the oil-proof material used in the construction of 'Daycoil' V-Belts, has all of the properties of natural rubber, such as flexibility, plasticity and resiliency, plus aging properties many times that of rubber, and much greater abrasive and wearing qualities when subjected to oils and solvents.

"The 'Daycoil' Oil-Proof V-Belt was first subjected to the most exhaustive tests in both laboratory and shop. Regular belts of all makes and types were run side by side with 'Daycoil' belts in the oil tests. The saturated or submerged test was, of course, the most severe. The belts were actually run dripping with oil with full rated load and reverse idlers and other attachments to stress the strain and wear as much as possible. Within a few hours the ordinary belts would swell—then burst their coverings and finally go to pieces. The 'Daycoil' Oil-Proof Belts would show no signs of swelling, stretching or wearing after hundreds of hours of this intensified testing.

"After the laboratory and dynamometer tests, actual field tests were made. The applications were various machine tools where a wide range of oily conditions could be encountered in normal plant operation. These exhaustive tests have proved that 'Daycoil' Oil-Proof V-Belts will effect a substantial saving in belts costs in all types of service wherever oil is a factor.

"The new 'Daycoil' Belt will be demonstrated at the Machine Tool Show in Cleveland September 10 to 21 in Booth No. A-304, Accessories Division. A unique testing machine will be in actual operation to present the advantages of 'Daycoil' V-Belts in a graphic manner."

The Dayton "Daycoil" Oil-Proof V-Belts will be sold and serviced through the company's regular Industrial Sales and Distributor organizations.

Arthur D. Little Inc. to M. I. T.

Arthur D. Little Inc., Cambridge, Mass. the well known industrial research firm that has done much work in the pulp and paper industry will, in accordance with the will of the late Arthur D. Little, eventually become a part of the Massachusetts Institute of Technology.

The will provides that Dr. Little's stock in Arthur D. Little Inc. is to be held in trust, with the income to go equally to M. I. T. and to his wife, Mrs. Henrietta A. Little. Eventually the controlling interest is to go entirely to M. I. T. It is planned to have the research firm continue as an independent agency, conducted so as to benefit both industry and M. I. T. The trustees are Royal Little of Providence, a nephew of Dr. Little; Francis R. Hart, president of the United Fruit Company; and Horace Ford, treasurer of M. I. T.

Dr. Little was a member of the class of 1885 of M. I. T. and helped found the School of Chemical Engineering Practice. In 1931 he received the Perkin Medal, one of the highest honors in chemical achievement. He was a charter member of the Technical Association of the Pulp and Paper Industry and his discoveries included processes for the manufacture of chrome tanned leather, newsprint from certain woods grown in the South, and work in the development of artificial silk and petroleum extraction.

Kalamazoo TAPPI To Meet

The first TAPPI local section meeting of the season will be that of the Kalamazoo Valley Section at 7:30 P.M. Thursday, September 5, 1935 at the Kalamazoo Vegetable Parchment Community House, Parchment, Mich.

W. J. Lawrence, president of the Paper Makers Chemical Corporation and mmeber of the TAPPI National Executive Committee, will address the meeting, and F. K. Shankweiler of the same company will talk on "The Use of Protective Coatings for Paper."

Following the meeting those present will visit the new laboratory of the Paper Makers Chemical Corporation.

Steam Accumulators In Paper Mills*

By D. K. Dean[1] and G. M. Cameron[1]

Heat storage in many plants is as necessary as is the storage of raw or partly finished material usually provided to prevent interruption in production. The paper mill like any other manufacturing plant, having a number of departments makes provision for a certain storage capacity of raw or partly finished material so interruptions in the operation of one department do not necessarily affect the operations of another department and consequently production as a whole.

While individual departments may be considered as operating continuously, their demands for steam and power are not constant. In Fig. 1 the lower curve shows the steam demand of a battery of sulphite digesters operating on a normal schedule. On the other hand, the steam demand of the paper machines, usually considered constant, shows a considerable variation in the amount required. The middle curve, Fig. 1, shows a typical paper machine steam demand. Most of the variations result from off-peaks in the demand for steam, such as would be caused by breaks in the paper or when a machine is cut off to repair a wire or to make some adjustment. Off-peaks from the latter cause are of longer duration than those caused by breaks in the paper. In addition to a variable demand for steam there is usually a variation in the demand for power so that the total steam demand of the mill fluctuates considerably throughout the operating day. The upper curve represents the total steam demand of the mill.

Continuous and efficient production depends upon the ability of the boilers to supply the necessary amount of steam at a reasonably constant pressure regardless of the rate of demand. While much has been done in recent years to improve the flexibility of firing equipment, steam generators have a definite range within which satisfactory efficiency may be obtained. Operation above or below this range is not efficient. Referring to the total steam load, Fig. 1, it is evident that the firing rate of the boilers must be adjusted over a wide range to meet the demand for steam. It is also evident that the boilers are required to operate for a considerable proportion of the total operating time at low efficiency. The boilers must be able to generate approximately 230,000 pounds per hour to meet the maximum demand, although the demand swings rapidly from approximately 150,000 pounds per hour to 230,000 pounds per hour. It is logical to assume that the boilers would be designed to produce the average of this load, about 210,000 pounds per hour at maximum efficiency because maximum efficiency cannot be expected over the entire range of the load. Aside from reduced efficiency, it is evident that there will be a considerable variation in steam pressure because the steam generating rate cannot be adjusted as rapidly as the load changes. Variation in steam pressure will affect power generation adversely and may impair process operations due to resulting temperature changes.

If the steam load indicated is to be supplied without variation in pressure more boiler capacity will be required than would be necessary to carry the average of the load.

Johannes Ruths of Stockholm, after an extensive study of the steam load conditions in paper mills, devised a system to provide a reserve supply of steam which would

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*Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 18 to 21, 1935.

[1]Foster Wheeler Corporation, New York, N. Y.

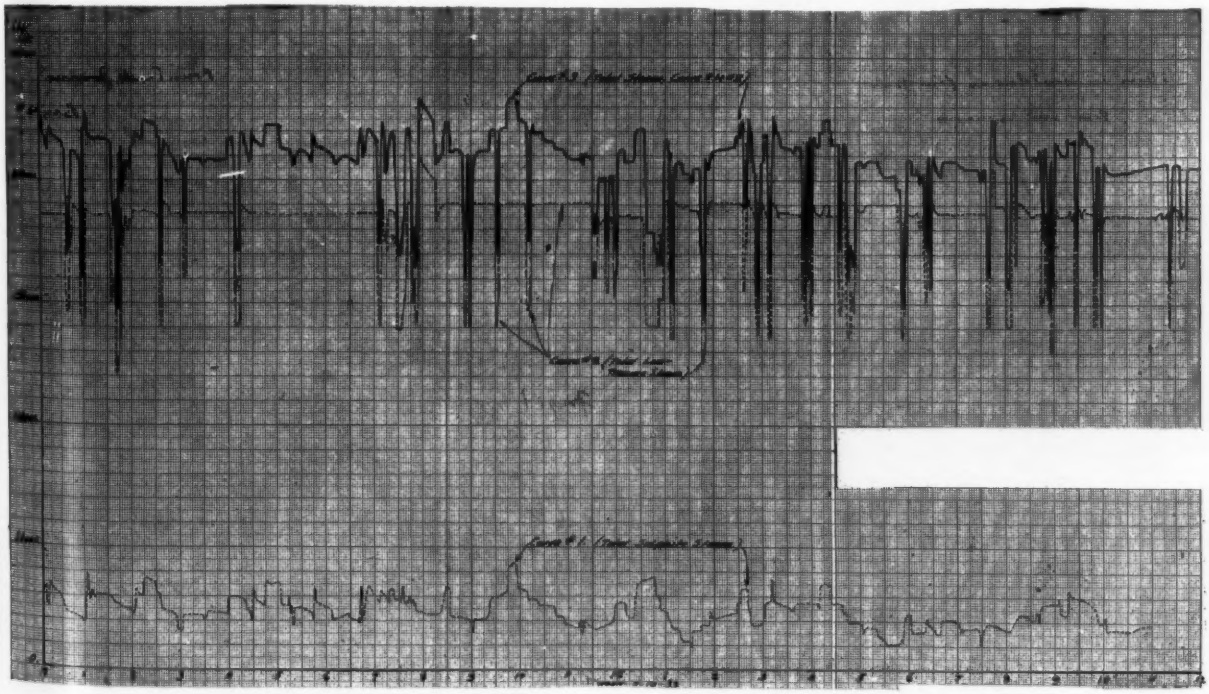


FIG. 1

Typical steam demand in a pulp and paper mill.

insure all departments an ample supply of steam at the desired pressure regardless of the rate of demand; the boilers are not required to respond to sudden variations in the load. Actually, the boilers generate steam at a constant rating corresponding to the average of the total plant demand.

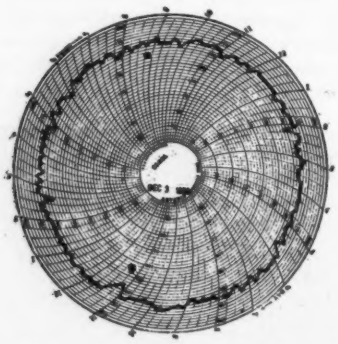
Principle of Storage

This steam storage system is developed upon the principle of storing in a large quantity of water, under pressure and at saturation temperature, the heat energy of steam, and of releasing this energy in the form of steam by decreasing the pressure. The principle was not new, but the method of control of the steam so stored had to be adapted to meet operating conditions, not only in the boiler room but in all departments using steam.

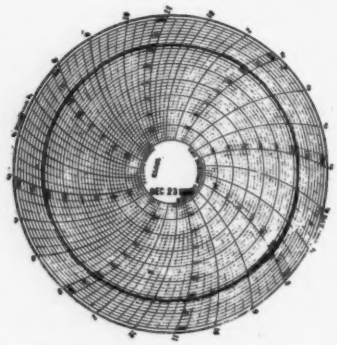
The storage vessel, or accumulator, is designed to store between certain pressure limits, the amount of steam required to stabilize the load. The charging and discharging of stored steam is so controlled that charging takes place only when the steam supply from the boilers exceeds the demand for steam and discharging occurs only when the steam demand exceeds the supply from the boilers. The boilers are operated at a rate which will produce the average plant demand.

The success, as well as the need for steam storage in paper mills is evidenced by the fact that more than 160 paper mills have installed steam storage systems.

In the boiler plant, as stated before, the required operating capacity is reduced to the capacity necessary to supply the average plant demand. At the same time, the boilers



BOILER PRESSURE WITHOUT ACCUMULATOR



BOILER PRESSURE WITH ACCUMULATOR

FIG. 2

Boiler pressure before the accumulator was installed with four boilers operating and boiler pressure with accumulator and three boilers in operation.

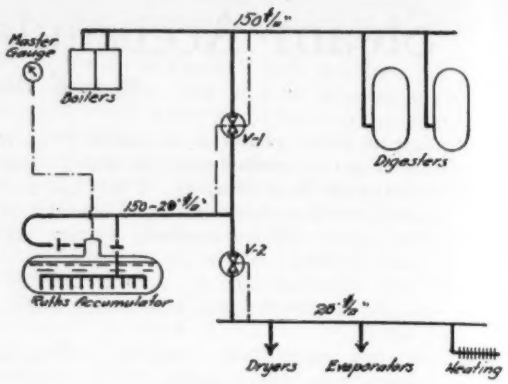


FIG. 3

Typical arrangement of accumulator in a plant where no power is generated

produce steam at a constant rate and consequently at a fixed and maximum efficiency. As a result, the cost of steam is reduced because less fuel is required, maintenance and labor is reduced, ash pit and stack losses are reduced, and, as will be shown later, actually less steam may be required. In one plant steam costs were reduced 31 per cent and a heavier plant load was carried without increasing the operating boiler capacity.

In the operation of paper machines a constant temperature for drying is important. A variable temperature will affect the quality of the paper and will increase the percentage of breaks. This materially increases costs through wastage or loss in production. Steam storage control provides steam at constant pressure regardless of any variations in the amount required. In one mill, paper machine speed was increased from 740 to 850 feet per minute, the quality of the paper was improved and breakage was reduced materially through stabilization of the drying steam pressure. Production was increased by 15.5 per cent.

In digester operation a considerable variation in the steam required is unavoidable. Careful scheduling may prevent extreme peaks in the steam demand but production rate of this department may be reduced as a result. On the other hand, the most exacting schedule will not entirely eliminate the heavy demand for steam caused by starting a cook. With steam storage the need for scheduling disappears and at the same time the digesters receive an ample supply at the correct pressure regardless of the momentary output of the boilers. The cook is completed in the minimum time and losses due to radiation are reduced as a result. Incidentally, constant pressure steam results in better control of cooking temperature. In the plant previously referred to, production of sulphite pulp was 50 per cent greater after the steam storage system was installed and yet the boiler capacity was not increased.

Advantage to Boiler Operation

We find therefore, that steam storage in the paper mill is a distinct advantage to boiler operation, to operation of the paper machines, and to digester operation. Fig. 2 shows boiler pressure in a mill before an accumulator was installed with four boilers operating, and the pressure in the same plant after an accumulator was installed. Three boilers now carry the load for which four were previously required.

Steam storage systems must be designed to meet individual plant needs. In a mill where no power is generated, the arrangement and control would be approximately as

shown in Fig. 3. An arrangement in conjunction with non-condensing turbo-generators is shown in Fig. 4.

Electric boilers are usually installed where excess hydro power is available and are designed to operate at high efficiency provided the rate of generation remains reasonably constant. The steam storage space and the water volume in the electric boiler is limited and with a typical paper mill load, regulation of electric boilers is difficult. Maximum efficiency cannot be expected unless variable steam output is eliminated. Fig. 5 shows steam pressure in a plant depending upon steam supply from electric boilers before an accumulator was installed, while Fig. 6 shows steam pressure in the same plant after the accumulator eliminated the fluctuating demand upon the boilers.

In a recent installation in connection with electric boilers, the efficiency was increased from 90 to 94.5 per cent through the stabilizing effect of an accumulator.

The production of byproduct power is common practice in most paper mills. The amount of non-condensing power produced depends not only on the amount of low pressure steam required, but on a reasonably constant throttle pressure and back pressure. It has been shown that the steam demand and the power demand are subject to considerable variation. It is also a fact that fluctuations in the demands do not necessarily correspond. In order to obtain the maximum amount of non-condensing power it is essential to provide a balance so that the bleeder or non-condensing bleeder turbo-generator may receive the correct amount of steam at constant pressure and exhaust this steam without increasing the back pressure.

The steam storage system may be designed to supply this balancing effect and as a result actually less steam is required to produce the necessary power.

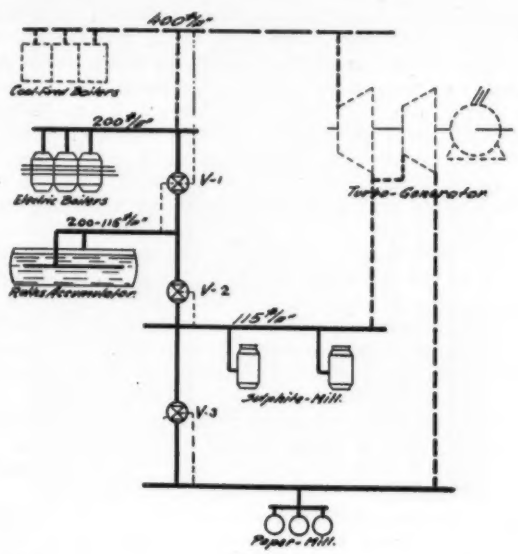


FIG. 4
Typical arrangement of accumulator in a plant generating non-condensing power.

Hot Water Accumulator

So far, we have referred entirely to the application of the steam accumulator to balance the production and consumption of steam. There are, however, in some plants, unbalanced load conditions where all the steam is used at boiler pressure or where all of the low pressure demand is supplied by the exhaust from prime movers. Such a condition means that there is no pressure range available within which a steam accumulator may be operated. In this case it would be necessary to stabilize the load with a hot water accumulator. For example, let us assume we have an excess of steam at 25 pounds caused by a peak power demand occurring when the paper machine steam demand is reduced. This ordinarily means that the extra power must be produced by a condensing turbo-generator or that steam is exhaust to atmosphere. At the same time the load on the boilers is not reduced and may increase. The hot water accumulator provides for the absorption of the excess 25 pounds steam during this period by heating the makeup water required for boiler feed. The water in the accumulator will have a temperature corresponding to the temperature of 25 pounds steam and since the water

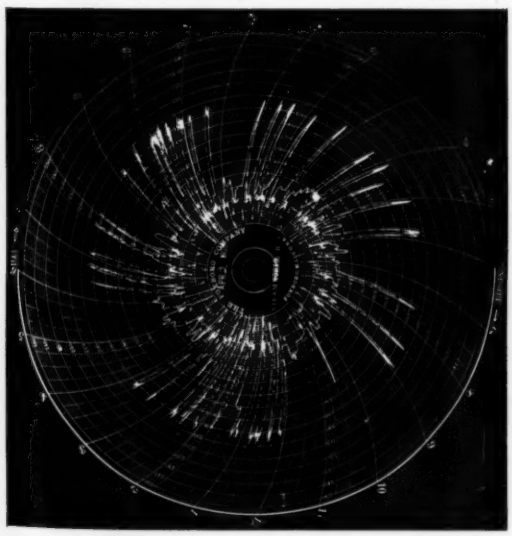


FIG. 5
Boiler pressure in a plant with electric boilers and without accumulator.

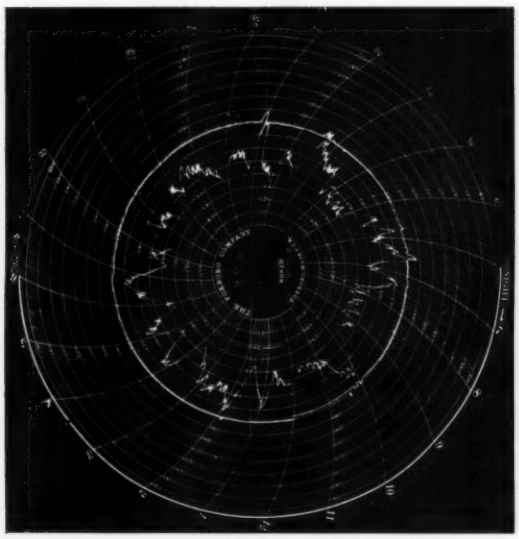


FIG. 6
Boiler pressure in the same plant as Fig. 5, with an accumulator in operation

storage capacity provided would be sufficient to take care of the excess exhaust, it remains in the accumulator until such time as the demand for 25 pounds steam by the paper machines exceeds the exhaust from the turbine. During this period, the feed water requirement of the boilers in excess of the condensate return is supplied from the accumulator. Without this arrangement it is evident that heating the makeup water required would cause an additional demand on the 25 pound line and indirectly on the boilers.

Fig. 7 shows an accumulator designed to store 40,000 pounds of steam when operating between 145 and 25 pounds pressure. In regard to storage capacity, it is well to note that the amount of steam stored in an accumulator is available at any rate per hour required. For example, 40,000 pounds of steam if considered on the basis of one hour is available at the rate of 40,000 pounds per hour for one hour, while for one-half hour the same amount is available at the rate of 80,000 pounds per hour, etc. On the other hand, absorption of steam by the accumulator may be variable in the same manner.

Fig. 8 shows a typical set of automatic regulating valves installed to control the charging and discharging of the accumulator. To the right are the gauges which indicate accumulator performance and pressure regulation in the various mains controlled.

Heat Recovery With Accumulator

Adaptation of the heat or steam storage function of an accumulator to heat recovery offers a further possibility for saving in the paper mill. A great deal of interest has been shown in the possibility of heat recovery from digester blow-down. The modern paper mill has utilized, so far as possible, condensate returns and low pressure steam to provide the necessary hot water supply and boiler feed. In plants where there is a deficiency in hot water supply after all available returns are used, the heat from digester blow-down may be recovered and used for heating water by installing heat exchange equipment. In plants where the hot water demand has been taken care of from other sources, heat recovered from digester blow-down must be utilized in the form of steam.

The normal operating schedule of digesters is such that

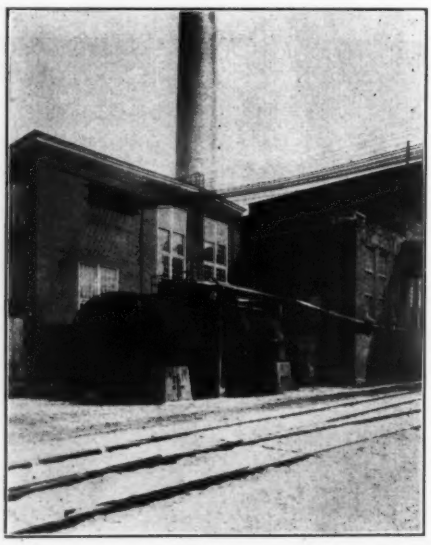


FIG. 7

View of a 7,500 cubic foot accumulator with a storage capacity of 40,000 pounds of steam for a pressure range of 145-25 lb. square inch. Length 53 ft. Dia. 14 ft.

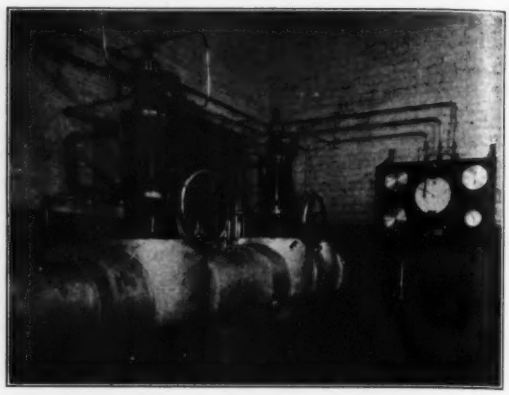


FIG. 8

View of a typical set of automatic regulating valves to control charging and discharging of the accumulator.

the rate of heat recovery will vary considerably. On the other hand, it is desirable to have a reasonably constant rate of steam flow at constant pressure. Otherwise, the use of this steam will cause pressure fluctuations in the lines receiving it.

The accumulator is used to store the variable quantity of steam recovered and to discharge this steam at a constant rate, corresponding to the average of the amount recovered.

For example, assume a digester charge whose water equivalent is 130,000 pounds and the final cooking pressure 125 pounds per square inch and an operating schedule of 40 cooks per day. The total recoverable heat would amount to approximately 18,000 pounds per charge if the pressure is released to atmosphere, but if the requirement for steam at atmospheric pressure is presumed to be taken care of from other sources, the amount recovered will be governed by the following conditions: first, pressure required to blow the digester, and second, pressure of steam delivered to the low pressure consumers.

If we assume a pressure of 50 pounds per square inch is required to blow the digester, the heat to be recovered will be the amount of steam flashed, after completion of the cook, when the pressure in the digester is relieved from 125 to 50 pounds or approximately 8000 pounds of steam per charge. On the basis of 40 cooks per day the recovered steam will average approximately 13,000 pounds per hour. The accumulator then would receive steam at a pressure varying from 125 pounds pressure to a minimum of 50 pounds pressure.

If the recovered steam is to be used by the paper machines at, for example, 20 pounds pressure, the accumulator would have an operating range from 50 pounds pressure to 20 pounds pressure. The required storage capacity of the accumulator depends on the operating schedule of the digesters since two or more digesters may be discharged at the same time and the rate of discharge from the accumulator may be adjusted to suit the demand for 20 pounds steam.

Different plant conditions require individual treatment but this form of recovery particularly from soda or sulphate digesters will show a valuable return on the investment.

Process Heat Recovery

In cases in which there may be uses for hot water in quantity, various methods of heat recovery are possible.

For the deinking plant in which large quantities of hot pulp suspensions are exhausted from the digesters, flash

type heat exchanage equipment such as is shown under Fig. 9 can be used with considerable success. In this type of heat exchanger the hot pulp is introduced into a flash chamber within which a vacuum is maintained by means of a heater-condenser and an accompanying steam jet air pump. The heater-condenser may be of the direct contact type as shown in the figure, or may be of the indirect or surface type. The steam jet air pump atttached to the heater-condenser maintains the desired degree of vacuum within the system.

In entering the flash chamber, on account of a reduction in vapor pressure, a certain portion of the water content of the pulp suspension evaporates and passes off in the form of steam into the heater-condenser. Fresh water for the process is delivered through the heater-condenser thus condensing and being heated by the steam vaporized within the flash chamber. There is an appreciable saving in the heat requirements for digesting purposes resulting from this preheating of the fresh process water.

A pulp pump removes the pulp from the flash chamber and delivers it to the next stage in the process, while a hot water pump removes condensed steam in the case of a surface or indirect type of heater-condenser, or the condensed steam and the heated fresh water in the case of the direct contact type heater-condenser, and delivers it to its next point of usage.

There are no obstructions within the system so the chains of book fasteners which are so bothersome in the deinking processes, will pass through without being caught.

Whenever a pulp digester is blown, the reduction in pressure from within the digester corresponding to from 60 to 125 pounds per square inch to that of the atmosphere results in the flashing of a large amount of steam from the discharged pulp. Each pound of this steam evaporated contains approximately 1000 B.t.u. which may be made available for recovery in a water heating system. Such a system would consist of a heater-condenser of either the surface or direct contact type, receiving the steam from the delivery pipe atttached to the blow pit. Water delivered through this heater at a considerable rate will condense the steam flashed off and discharged from the blow pit, and will thereby be heated to a high temperature so that considerable savings may result from its use for such purposes as the washing of the blow pits and the washing of the pulp.

Evaporation of water in the machine rooms and the heating of the air by convection from the dryer rolls, results in an appreciable loss of heat. If there is a use for hot water, the air discharged from a machine room may pass through a heating tower such as is illustrated in Fig. 10. This tower is of redwood construction which is particularly suitable for the service. It is provided with a water distribution and filling system. The water enters a series of troughs in the upper portion of the tower and

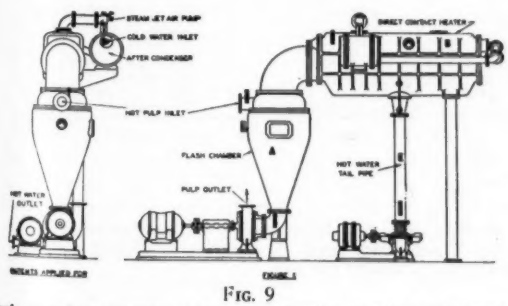


FIG. 9

Single stage heat exchanger system for extracting heat from pulp solutions.

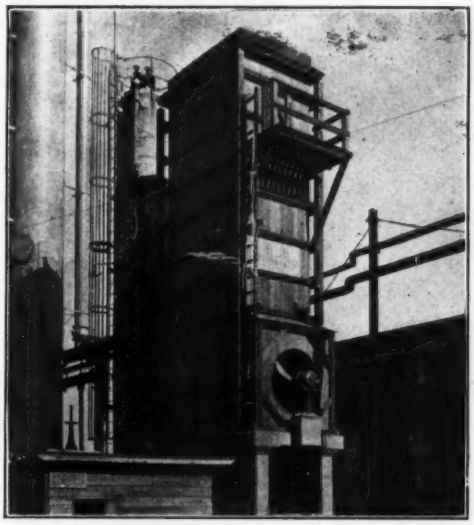


FIG. 10

Typical heating tower for recovery of heat from machine rooms.

is delivered through spouts upon brass splash plates, whereupon it is distributed evenly over an extended amount of filling surface made up of triangular strips of redwood placed in staggered relation to one another. This filling completely fills the tower between the distribution system and a point directly above the air inlet connection. Such a heat recovery system is capable of preheating water to within a few degrees of the wet bulb temperature of the air leaving the machine room. This type of recovery system is extremely inexpensive when compared with the possible savings.

Customarily the fan shown in Fig. 10 will not be necessary, as the ordinary ventilation system of a machine room will be capable of delivering the removed air through the heating tower.

Acid Plant Heat Recovery

In the production of acid through the burning of sulphur, one of the requirements is the cooling of sulphur dioxide prior to its absorption in a milk of lime or other acid making process. Sulphur dioxide gases cannot be used at the high temperatures existing as they leave the furnace. This situation is not limited to the manufacture of sulphuric acid in paper mills but is the condition which exists in other chemical plants.

One of the most satisfactory and effective methods for reducing the temperature of sulphur dioxide leaving sulphur burners is to pass the gas through a waste heat boiler, constructed along special lines to eliminate the infiltration of air and minimize corrosive action of the boiler tubes. It has been found possible also to overcome the undesirable condition of excessively cooling some of the sulphur dioxide in order to bring the average temperature to the desired point.

Briefly, such a boiler is built with a sheet steel casing with welded seams, thus giving an airtight housing with the exception of one or two points of access for inspection and pipe connections. Boiler tubes of ordinary material are covered with cast iron gilled rings reamed, heated and shrunk upon the tubes. These rings break up the flow of sulphur dioxide into innumerable small streams, each of which has direct contact with heat absorbing surface. The water within the tubes has a temperature corresponding

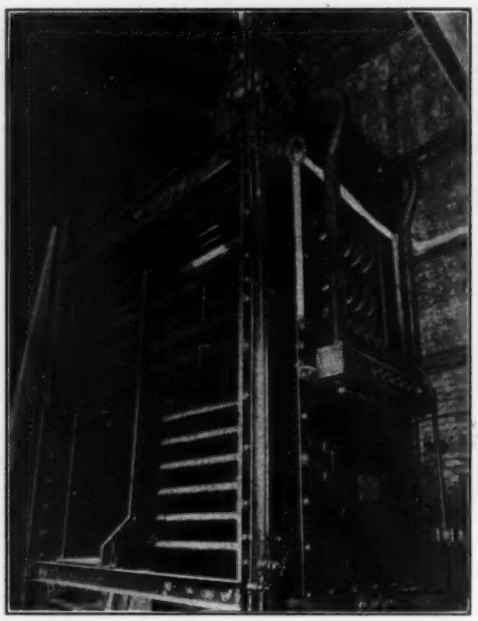


FIG 12
Photograph of waste heat boiler before completion of setting.

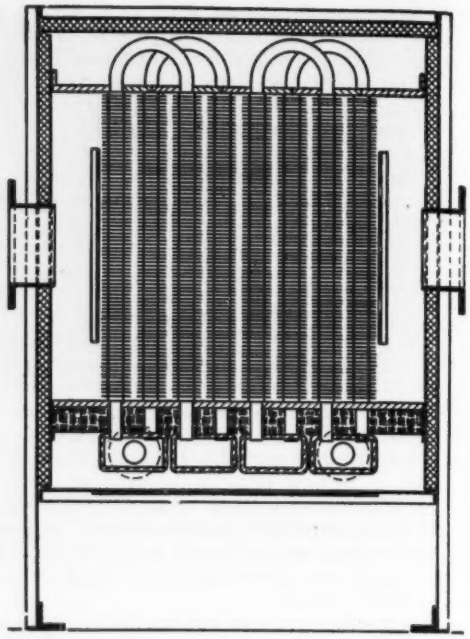


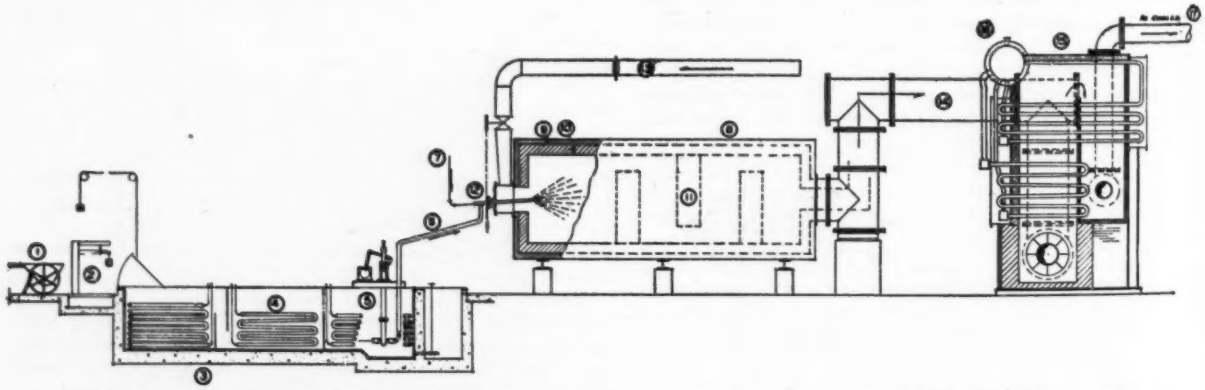
FIG. 13
Drawing of typical waste heat hot water heater having vertical armored elements.

to the steam pressure and, therefore, does not chill the carbon dioxide excessively at any point. The heat recovered goes directly into the generation of steam and at one well known plant, 2000 pounds is generated per hour at a pressure of 190 pounds gauge. This is certainly a great improvement when contrasted with the old practice of using cold water pipes and throwing the heat away. Fig. 11 is a line drawing showing the arrangement of sulphur burner and waste heat boiler. Fig. 12 shows a photograph of the heating surface of the waste heat boiler taken before the side walls were put in place. You will note the graduated cast iron surface used upon the tubes—a corrugated form is used on tubes in the hottest path of the gases in order that the gases will be gradually cooled and heat absorbed at a more even rate throughout the boiler. The size of rings is increased in subsequent gas passages and the temperature of the sulphur dioxide leaving the boiler is 400 degrees. This may be varied as desired.

Internal Combustion Engines

In those plants using internal combustion engines there is ordinarily a waste of heat amounting to between 25 and 35 per cent of the recoverable heat in the exhaust gases. Waste heat muffler type boilers have been developed to a highly effective and satisfactory state during the past five years and due to the moderate steam pressures ordinarily employed and the low temperature of exhaust gases, little attention is required for their satisfactory performance. The boilers may be constructed with either vertical or horizontal heating tubes and no complications with circulation are encountered. These boilers are in service with internal combustion engines ranging from 90 to 5000 hp. and many of them have been operating in ocean going vessels for a number of years.

In order to effectively recover heat at the low tempera-



Legend: 1, Sulphur buggy. 2, Sulphur scale. 3, Sulphur melting pit. 4, Melting coils. 5, Sulphur pump. 6, Steam jacketed sulphur pipe. 7, Compressed air line. 8, Sulphur burner. 9, Insulating brick. 10, Refractory brick. 11, Baffles. 12, Spray nozzle. 13, Air intake. 14, Hot gas line. 15, Heat Interchanger. 16, Steam connection. 17, Cooled gas line.

FIG. 11
Sulphur burner operating in connection with waste heat boiler.

tures prevailing, the steel boiler tubes are covered with cast iron extended surface rings and no difficulty has been encountered at keeping this heating surface clean. Some apprehension existed regarding this due to the sticky nature of oil soot but few, if any, of these installtions have been equipped with soot blowers, and the operating crews have made no complaint about difficulty in cleaning and, on the other hand, have been enthusiastic about the fool-proof qualities provided by a strong boiler tube protected with cast iron armor.

Another form of such a heat recovery device is known as waste heat muffler water heater. The same general principles of operation and construction are involved and where it is desired merely to heat water and the generation of steam is unnecessary, the equipment may be reduced in cost through the elimination of a steam drum and its fittings. Fig. 13 shows such a water heater having vertical heating tubes with "U" bends at the top. The casing is built to withstand the pulsation setup in an exhaust gas passage and insulation is placed between the inner and outer walls of the casing.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Mechanical Processes

Study of the Quality of Pulp Obtained by Milling with Pulpstones Experimentally Fabricated at the Gorskii Plant. A. A. Klebnikov and A. I. Samuishkina. Central Sci. Research Inst. Paper Ind. Trans., 1933, No. 4:99-112 (in Russian); C. A. 28:7007.—Comparative tests were made upon the performance of artificial and foreign pulpstones.—C. J. W.

Observations on the Ununiform Ground Wood Quality Over the Width of the Grinding Zone. Walter Drechsel. Papier-Fabr. 32, No. 31A:41-44 (Aug. 5, 1934).—There are wide variations in the temperature of the ground wood produced, the hottest stock coming from the center of the stone. This variation in temperature naturally leads to a variation in the quality of the ground wood, but by varying the amount of water over the width of the stone a uniform quality ground wood should be produced.—J. F. O.

Newsprint from Pine Wood. Wochbl. Papierfabr. 65, No. 45:799 (Nov. 10, 1934).—A method for the removal of the rosin in pine wood has been invented which permits the grinding of this wood for the manufacture of newsprint. This will materially aid Germany in that she will be less dependent upon pulpwood imports.—J. F. O.

Process for the Preparation of Waste from the Wet Spinning of Flax and Hemp for the Manufacture of High Grade Papers. Papierfabrik Spechthausen Akt. Ges. Spechthausen. Ger. pat. 597,315 (June 18, 1932).—By means of different kinds of machines and without any chemicals whatsoever, the waste from the wet spinning of flax and hemp is made into materials for the manufacture of paper.—J. F. O.

Process for the Manufacture of Ground Wood. Heinrich Lund, Garfeld. Ger. pat. 599,538 (Nov. 23, 1932).—The object of the invention is to design a grinding process using the least power and producing the longest fibers without any slivers. This is accomplished by means of a stone with concave surface to which the logs rub against.—J. F. O.

Apparatus for Defiberizing Wood. George H. Ellis assignor to The Insulite Co., U. S. pat. 1,979,373 (Nov. 6, 1934).—The apparatus consists of a suitable number of wood-containing pockets, each surmounted by a fluid-operated plunger to press the wood downward. The hoppers are mounted on a large rotating spider below which are a large number of rotating abrasive rolls, rotation of the spider feeding the wool over the abrasive rolls in a direction lengthwise of the fibers. With each pocket is associated an auxiliary hopper from which the wood is automatically delivered into the main pocket when the plunger is retracted.—A. P.-C.

Motor Control System for Grinders. George E. Craig and William J. Walker, assignors to International Paper Co., U. S. pat. 1,985,719 (Dec. 25, 1934).—The invention provides means for maintaining a practically constant load on an electric motor driving two or more continuous-feed grinders. Resistances are inserted in the field circuits of the generators supplying power to the feed motors, which resistances are provided with individual shunt circuits having normally closed switches. These switches are actuated by relays which are responsive to characteristics of the armature circuits of the feed motors, and operate independently to increase the resistance in the field circuits of the individual generators when predetermined characteristics of the feed motor armature circuits are attained.—A. P.-C.

Process for the Production of Ground Wood. Naamloze Vennootschap Handelsmaatschappij, Bloemendaal, Holland. Ger. pat. 601,556 (March 6, 1926).—The wood in its natural moist condition with a moisture content of 50 to 70 per cent is diminuted and broken up into fiber bundles by means of a so-called dry refiner. The fibrous material is then fed to a wet refiner and treated until there is a rise in temperature due to the rubbing.—J. F. O.

Conveying System for Wood Grinders. Charles H. Burr, assignor to Great Northern Paper Co., U. S. pat. 1,982,901 (Dec. 4, 1934).—A series of hopper type or magazine type grinders are arranged in two lines, and a trough containing a stream of water is located between the two lines and at a level above the open tops of the hoppers or magazines. The trough communicates with a storage pond containing a large supply of logs that are floated transversely down the trough and are delivered as required by an attendant into chutes placed between the trough and each hopper or magazine.—A. P.-C.

Process for the Treatment of Ground Wood to be Used for the Manufacture of Paper, Board and Carton.

J. M. Voith, Heidenheim. Ger. pat. 600,219 (Feb. 4, 1930).—J. F. O.

Miscellaneous Digesting Processes

Process of Preparing Cellulose. Fredrich Olsen assignor to The Cellulose Research Corp. U. S. pat. 1,979,341 (Nov. 6, 1934).—Wood chips are thoroughly saturated with water (or other incompressible medium) and subjected to the action of steam under a pressure of from 500 to 1000 lbs. per sq. in.; the pressure is released suddenly to "explode" the chips, which are washed with water to remove sugars and tannins, and are then cooked by one of the known processes. After washing, the pulp is treated for about 15 min. at 50°C. with about 10 times its weight of 5 per cent sulphuric acid, and is finally bleached with a chlorine solution such as sodium of calcium hypochlorite.—A. P.-C.

Preparation or Reduction of Wood or Other Fibrous Material. Roland B. Respess assignor to Respats, Inc. U. S. pat. 1,976,297 (Oct. 9, 1934).—The machine comprises a bed, preferably in the form of an annular trough having an inclined or curved outer wall, and rollers mounted above the trough, preferably on axes offset with relation to each other and arranged to rotate or roll in the trough. The mill is operated without the use of free water and the action of the rolls on the material in the trough heats up the material and facilitates reduction. The material is fed in such a way as to direct it against the outer wall of the trough in advance of one of the rollers; means are provided for gradually guiding it inwardly toward the axis of the trough and withdrawing it at a point adjacent the inner wall of the trough.—A. P.-C.

Extracting or Treating Vegetable Fiber for Making Paper. Eugene V. Hayes-Gratze. Brit. pat. 407,168, (March 15, 1934).—Vegetable fibers, *e.g.*, coir, sisal, hemp, are extracted or softened with a reagent, or aqueous solution thereof, *e.g.*, of pH not less than 7.5, obtained by electric ionization of a neutralized sulphonated oil, *e.g.*, as described in Brit. pat. 363,651.—A. P.-C.

Apparatus for Digesting Cellulosic Material. Camille Dreyfus and George Schneider assignors to Celanese Corporation of America. U. S. pat. 1,980,390 (Nov. 13, 1934).—Cellulose-bearing material is digested in a continuous manner by causing it to pass continuously, together with a suitable liquor, through a pipe or other passageway subjected to the required temperature and pressure.—A. P.-C.

Method and Apparatus for Use in the Digestion of Fibrous Material. Thomas L. Dunbar. U. S. pat. 1,977,379 (Oct. 16, 1934).—A heat exchanger is provided for each digester. The digester, heat exchanger, acid accumulator and waste storage tank are interconnected in such a way that the spent liquor from previous cooks is used for a preliminary heating of the digester liquor, utilizing the same lines and pump in draining the digester liquor and in supplying heat to the heat exchanger.—A. P.-C.

Treatment of Fibrous Materials for Paper Making and Like Purposes. E. V. Hayes-Gratze. Brit. pat. 363,651 (Jan. 18, 1933).—Vegetable fibers, preferably coir, sisal and hemp, are extracted or softened by means of a reagent, or an aqueous solution thereof, prepared by subjecting neutralized sulphonated oil to electrical ionization, the flesh matter or pith of the fibers being utilized as a filler.—A. P.-C.

Chemical Treatment Process for Pulp Manufacture. Harry L. Wollenberg assignor to Longview Fibre Co. U. S. pat. 1,982,130 (Nov. 27, 1934).—This is an improvement on the process of Wollenberg's U. S. pat. 1,915,812 (June 27, 1933), and provides that the digested material passes directly from the digesting chamber into a refiner where it is treated in presence of the hot spent liquor.—A. P.-C.

Process for the Digestion of Vegetable Growths to Produce Cellulose. Herman B. Kipper. U. S. pat. 1,985,609 (Dec. 25, 1934).—Wood chips are subjected to the action of water vapor and of nitric acid vapor or nitrogen oxides, preferably under pressure and in the type of digester described in Kipper's pat. 1,820,276 of Aug. 25, 1931. Pulping is completed by cooking in a weak alkaline liquor.—A. P.-C.

Process for the Preparation of Membranes from Plant Fibers by the Removal of Alkaline Liquors. Leonardo Cerini, Castellanza, Italy. Czech. pat. 46,544.—The fibers in the form of webs, paper or roofing felt are treated with solutions of organic or inorganic salts of the alkali metals, metals of the alkali earths and rare earths or with salts of manganese, zinc, aluminum and chromium; after the pretreatment with concentrated alkali solutions.—J. F. O.

Adhesives

Concerning Adhesives. Carl Becher. Zellstoff u. Papier, 14, No. 12:506-507 (Dec., 1934).—The author first goes into the theories of adhesives, then describes the natural adhesives, manufactured adhesives, means for their preservation, and finally important facts to consider in their use.—J. F. O.

Glue and Adhesives in the Paper Industry. K. Friedrich. Gelatine, Leim, Klebstoffe 2:150-153 (1934); C. A. 28:7526.—Polemical. Parchment paper offers better protection for foodstuffs against poison gas than a paper permeable to fats. Effusion depends upon porosity and upon solubility of the gas in the protective covering. The danger, however, appears to be overestimated in view of the low concentration of gas usually present.—C. J. W.

Beating

Laboratory Beating Characteristics of Some Grass and Wood Pulp Fibers. H. Ainsworth Harrison. World's Paper Trade Rev. 102; 1376-1378 (Nov. 2, 1934).—A number of long- and short-fibered pulps were evaluated in the Lampen mill, with a view primarily to showing the nature of tearing-strength development and its relation to fiber length. Up to a certain (undetermined) limiting fiber length, the tearing strength increases during the early stages of beating; but if the fiber length is high, tearing strength decreases immediately beating begins, owing to reduction of the fiber length.—A. P.-C.

Beater. Cassius M. Bryan. U. S. pat. 1,980,253 (Nov. 13, 1934).—The invention consists essentially in supporting one end of one of the lighter bars or corresponding ends of both lighter bars) from a suitable indicating weighing mechanism, thus permitting of accurately adjusting the roll to any desired setting, or of accurately repeating any desired beating cycle.—A. P.-C.

Stock Regulator for Paper Machines. William P. Feeney. U. S. pat. 1,971,776 (Aug. 28, 1934).—This is an improvement on Feeney's U. S. pats. 1,134,831, 1,143,523, 1,331,057 and 1,763,691, providing modifications in the design of the instrument intended to prevent stratification or settling of the pulp, to reduce the time of lag between changes in volume or characteristics of the stock and action of the control mechanism, and to render the device more sensitive.—A. P.-C.

Refiner. Raymond C. Benner and Albert L. Ball assignors to The Carborundun Co. U. S. pat. 1,971,335 (Aug. 28, 1934).—Means are provided for producing an endwise oscillation of the plug relatively to the shell so as to alter the clearances between the rotating plug and shell within selected limits.—A. P.-C.

The "Stock-Maker" Precision Laboratory Beater. C. W. Morden and George H. McGregor. Paper Trade J. 100, No. 3:36-38 (Jan. 17, 1935).—The Stock-Maker continuous batch method of beating has been adapted to laboratory beating; the beater itself is briefly described, and the results obtained to date with it are briefly discussed.—A. P.-C.

The Fiber-Water Relation in Paper Making. J. H. Bell. World's Paper Trade Rev. 102: 1330-1334, 1380-1384, 1418, 1420, 1456-1460, 1488-1492 (Nov. 2-16, 1934). —A discussion of the mechanism of "wetness" or "hydration" during beating in the light of Lüdtke's results on the structure of vegetable cell membranes.—A. P.-C.

Beater. Aldo Galliani. Fr. pat. 766,886.—The beater is run with the roll practically completely emerged out of the stock. The latter is fed directly in between the roll and bedplate by means of a pump. The backfall is eliminated, the pulp on leaving the bedplate being discharged directly into the trough which returns it to the suction side of the pump.—A. P.-C.

Process and Apparatus for the Hydration of Paper Pulp. Sturtevant Mill Co. Fr. pat. 768,848.—Stock is introduced and treated in a hammer mill at such a consistency that it cannot flow and tends to remain in the machine. A suitable stream of water is introduced separately to dilute the stock after it has been hydrated.—A.P.-C.

Pulp Refiner. Francis S. Farley and Roger B. Brown assignors to Lionel M. Sutherland. U. S. pat. 1,984,869 (Dec. 18, 1934).—The refiner consists essentially of two oppositely revolving artificial abrasive discs, the pulp being fed between the discs through a passage formed in the center of one of them. Series of radial grooves, substantially narrower than the intervening plane abrasive areas, are provided in the working faces of the discs. Means are provided for adjusting the discs towards or away from each other.—A. P.-C.

Beater Washer. Waldo E. Dodge. U. S. pat. 1,981,542 (Nov. 20, 1934).—A washing drum is mounted in the trough in front of the beater roll. It is driven by an individual motor, and the drum and motor are mounted as a unit in such a manner that the drum can be readily raised out of the stock by means of a mechanism operated by fluid pressure.—A. P.-C.

Refining Engine. John D. Haskell and Graham P. Prather assignors to Dilts Machine Works, Inc. U. S. pat. 1,985,569 (Dec. 25, 1934).—Haskells U. S. pat. 1,873,199 of Aug. 23, 1932, provides for the use of small fins at the smaller end of the plug of a conical refiner in order to force the stock through the knives. As the plug wears the fins cause agitation and loss of efficiency. The present invention overcomes this by the introduction of a special orifice element or plate at the smaller end of the plug.—A. P.-C.

Acidproof Beater Bar. Frank M. Gloyd assignor to Simonds Worden White Co. U. S. pat. 1,980,481 (Nov. 13, 1934).—The lower part of the beater bar, which is embedded in the body of the beater roll, is made of ordinary steel, and the portion protruding from the roll is made of stainless steel, the two portions being united by means of an intervening stratum of steel attached to each by fusion and having a substantially hour-glass-shaped cross section.—A. P.-C.

Pulper. E. et M. Lamort Fils. Belg. pat. 402,047 (April 30, 1934).—Pivoted hammers rotate inside a casing having perforated walls through which the fibers pass as soon as they have been sufficiently disintegrated.—A.P.-C.

Paper Pulp Beater. Samuel Milne. Fr. pat. 769,489 (March 1, 1934).—The patent covers various features in the design of beaters including: (1) prolonging the surface of the backfall appreciably above the axis of the roll in a plane that is tangent to the roll, the bedplate extending over an arc of about 75° and terminating at the point where the tangent surface of the backfall begins; (2) sliding, spring-actuated packing around the roll shaft where it passes through the walls of the beater trough; (3) a worm drive operated from the beater roll shaft to progressively and automatically increase the pressure, the drive being disconnected when the desired maximum pressure has been reached; (4) adjusting screws beneath the bedplates to regulate their positions relatively to the roll; (5) suitable channels for dividing the stream of stock as it passes over the backfall and for directing the divided currents on opposite sides of the beater trough; (6) a beater roll constructed of segments of lava or other abrasive material, the segments being made to a width at their outer part such as to form a practically continuous shell or covering for the roll and being provided with two, three or more lifting pockets or cells.—A.P.-C.

Beater. E. et M. Lamort Fils. Fr. pat. 763,061.—In a continuous breaker beater, the material leaving the beater roll is projected into a trough which leads it to a suitable screen which removes the sufficiently disintegrated material, the remainder being delivered back directly into the beater trough.—A.P.-C.

Beater. Ernst. Schmidt. Fr. pat. 768,474 (Feb. 10, 1934).—The stock is fed under pressure from below in between the knives of the bedplate. The fly-bars are made in the shape of a comb having trapezoidal teeth, and the bedplate knives have the required corresponding shape to intermesh with the flybars.—A.P.-C.

Pulp Beater. Jean Dayan. Fr. pat. 765,768.—The essential feature of the invention consists in discharging the stock from the beater roll at two points at different levels, one being preferably somewhat above the level of the roll axis and the other at or near the top of the roll. The stock is led from the second discharge point to any desired point by means of an inclined plane.—A.P.-C.

Beater and Jordan Development. B. W. Dean. Paper Trade J. 99, No. 19:39-40 (Nov. 8, 1934).—A brief outline of the most recent beater and jordan developments of E. D. Jones and Sons.—A.P.-C.

Comparative Beating Tests with the Jokromuhle in Darmstadt, Waldhof, Aschaffenburg and Kothen. Possanner von Ehrenthal and Ernst Unger. Papier-Fabr. 32, No. 31A:34-41 (Aug. 5, 1934).—Two different grades of bleached sulphite pulp, a hard pulp and a soft, were divided and sent to four laboratories, beaten according to standard procedure by Jokromuhle beaters and the stock then sent to one laboratory for testing. Beater curves plotting the beating time to the tearing length for each pulp were drawn. The results showed a very good check, the maximum deviation from the mean was plus or minus 4.8 with one pulp and 4.1 with the other.—J. F. O.

Device for the Visible Setting of the Beater Tackle on Ordinary Beaters with Two Adjusting Devices. Heinrich Schickendanz, Merseburg. Ger. pat. 601,133 (April 23, 1933).—J. F. O.

Rod Mill in which the Rods Are Moving in a Stationary Drum. Hermann Mallickh, Duren. Ger. pat. 566,975 (July 24, 1930).—A three armed cross is attached to a central revolving shaft, which carry the rods around the drum interior.—J. F. O.

Beater. Philipp Malsbenden, Kothen. Ger. pat. 601,523 (Jan. 14, 1933).—A continuous system of beating in which the stock is prepared for the paper machine without further treatment. The beater consists of two essential parts, a rod mill and a beater roll each operating independently.—J. F. O.

Plans for TAPPI Fall Meeting

The plans for the biggest and best ever Fall Meeting of the Technical Association of the Pulp and Paper Industry, are rapidly taking shape.

First Day in Philadelphia

The convention will open on Wednesday, September 18, at Philadelphia, with headquarters at the Hotel Pennsylvania, 39th and Chestnut streets. Guests arriving Tuesday evening, either by train, bus or automobile, may obtain room with bath for $2.50 single, and $4.00 double. Garage 75 cents per night.

All guests should immediately purchase registration certificates, as these will include passes for all bus transportation, travel on the special train and luncheon. The registration fee is very modest. It represents only a fraction of the cost of the meals, entertainment, transportation, etc., to which the holder of the certificate is entitled. Registration certificates may be purchased on Wednesday at the Hotel Pennsylvania, on the special train, or at the Experimental Station, and later in the day at the Hotel Ambassador at Atlantic City.

While the principal trip for Wednesday will be a visit as guests of the Paper Makers Chemical Corporation to the Hercules Experimental Station near Wilmington, there are a number of paper mills, printing plants and other works of interest some of the members may want to take in. C. M. Connor, in charge of the Philadelphia trips sub-committee, will be at the Hotel Pennsylvania from Tuesday night on, so he can be consulted about any of these trips or make arrangements for them. He may also be reached at the Glassine Paper Company, Conshohocken, Pa.

It is recommended that the guests who arrive at the Hotel Pennsylvania previous to Wednesday morning, check out of their rooms and take their baggage along with them on the special train, if they take the Hercules Experimental Station trip, so they won't be bothered with it for the rest of the day, as it will be well taken care of on the train.

Buses will meet the train at Atlantic City to take the delegates and their baggage to the Ambassador Hotel.

Guests who arrive at Philadelphia by automobile, should plan to leave the Hotel Pennsylvania by 10 A.M., in order to arrive at the Hercules Experimental Station by noon. Motorists, when the tour is finished at the Experimental Station may conveniently drive direct to Atlantic City via the New Castle ferry, without bothering to return to Philadelphia.

Some persons will want to make this Convention a combined business and pleasure trip, so will probably arrive earlier in the week at Atlantic City, as under the low hotel rates which the Ambassador has extended to those attending the convention for the entire week, this makes a most reasonably priced vacation, considering the splendid accommodations in this excellent hotel. To those persons who find it inconvenient to go to Philadelyhia, tea will be served to all guests present at the Ambassador at 5 P.M. Wednesday in the Japanese Room.

Although most members are taking in the trip to the Hercules Experimental Station, the ladies will be having a most enjoyable time sight-seeing in Philadelphia. They will board the special train at North Philadelphia Station at 4:45 P.M. daylight saving time. This special train will arrive in Atlantic City by 6 o'clock and will be met by buses to take them to the Hotel.

The party will be given just about long enough time to correct the ravages of travel and get the war paint straightened on and then will be due at the "Howdy-do" supper in the Rainbow Grill of the Ambassador. This party will be entirely informal and the only way anyone attending will get away without becoming thoroughly acquainted, is to be deaf, dumb and blind all at the one time.

Only one speech will be allowed and that will be a speech of welcome by the general chairman, William R. Maull. After proper justice has been done to the Dutch Supper, there will be varied entertainment, such as group singing, specialty dancing, violin solos, monologues, dialogues, magical tricks, and last but not least, some dandy amateur skits by the various local sections. Dancing, of course.

Every member of the Delaware Valley Section has pledged himself to do his level best to see that its visiting friends have a good time. They will do everything they can in order that you may hear, see or do the things you want.

Convention activities start in earnest Thursday morning with the technical sessions and in next week's copy there will be shown the complete technical program and the recreation program, so that you can start and enjoy this in anticipation.

The men's registration fee includes coupons for the following:

1—Bus transportation from Hotel Pennsylvania to special train in Philadelphia, Wednesday.
2—Passage on special train to Hercules Experimental Station and luncheon, Wednesday.
3—Passage on special train to Atlantic City and Ambassador Hotel, Wednesday.
4—Howdy-do Supper party, including all entertainment and dancing Wednesday evening.
5—Men's luncheon on Thursday.
6—Bus transportation to and from Country Club of Atlantic City, Thursday.
7—Rolling chair ride on Atlantic City Boardwalk, Thursday.
8—Gay-Nineties Dinner and Entertainment, Thursday evening.
9—Men's luncheon on Friday.
10—Bus transportation to and from Atlantic City Country Club, Friday.
11—Banquet on Friday Evening and Entertainment and dancing.
12—Men's luncheon Saturday noon.

The above items covered by the Men's Registration Fee of $10.00.

The Ladies registration fee includes coupons for the following:

1—Philadelphia Historical Trip, Wednesday.
2—Luncheon at Belmont Mansion in Fairmount Park, Wednesday.
3—Passage on special train from Philadelphia to Atlantic City, Wednesday.
4—Bus transportation at Atlantic City Railway Station to Hotel Ambassador, Wednesday.
5—Howdy-do Supper party, including all entertainment and dancing, Wednesday evening.
6—Bus transportation to Hackney's and return Thursday.
7—Ladies' luncheon at Hackney's, Thursday.
8—Rolling chair ride on Atlantic City Boardwalk, Thursday.
9—Gay-Nineties Dinner and Entertainment, Thursday evening.
10—Bus transportation to Seaview Country Club and return, Friday.
11—Banquet on Friday evening and entertainment and dancing.
12—Ladies' luncheon Saturday noon.

The above items covered by the Ladies Registration Fee at the nominal price of $7.50.

Edward J. Albert, chairman of the Publicity Committee writes:

"Mr. H. E. Baggs, convention manager of the Ambassador Hotel, reports very gratifying advance reservations. We cannot, however, too strongly urge upon you to get your reservations in soon, as even in the same priced class, the most desirable rooms, that is those having the best sea view, will be allotted to those making reservations early. Remember that the special convention rates will be for the whole week. The price for a single room is from $3.00 to $6.00 per day, while for a double room, the price is from $5.00 to $8.00 per day."

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING AUGUST 24, 1935

CIGARETTE PAPER

H. H. Strauss, Normandie, Havre, 70 cs.; Champagne Paper Corp., Normandie, Havre, 386 cs.; De Mauduit Paper Corp., Washington, Havre, 175 cs.

WALL PAPER

———, Washington, Havre, 13 cs.; F. J. Emmerich, Deutschland, Hamburg, 5 cs.

NEWS PRINT

Jay Madden Corp., Columbus, Bremen, 137 rolls; N. Y. Evening Journal, Markland, Liverpool, N. S., 345 rolls; N. Y. Tribune, Markland, Liverpool, N. S., 1,134 rolls; World Telegram, Markland, Liverpool, N. S., 1,697 rolls; Bridgeport Herald, Markland, Liverpool, N. S., 63 rolls; Gilman Paper Co., Markland, Liverpool, N. S., 425 rolls; Jay Madden Corp., Washington, Hamburg, 206 rolls; ———, Stavangerfjord, Oslo, 89 rolls, 36 bls.; Parsons & Whittemore, Inc., Stavangerfjord, Oslo, 36 rolls; Lunham & Reeve, Inc., Scanstates, Kotka, 217 rolls; Jay Madden Corp., Scanstates, Kotka, 362 rolls; Perkins Goodwin & Co., Deutschland, Hamburg, 91 rolls.

PRINTING PAPER

G. J. Fijux, Scanstates, Kotka, 100 rolls; Jay Madden Corp., Scanstates, Kotka, 67 rolls, 51 bls.; Phoenix Shipping Co., Deutschland, Hamburg, 4 cs.

WRAPPING PAPER

Scharf Bros., Edam, Rotterdam, 6 cs.; S. S. Kresge & Co., Pipestone County, Havre, 3 cs.

PACKING PAPER

Chas. Happel, Edam, Rotterdam, 6 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., American Banker, London, 2 cs.; Devoe & Raynolds Co., American Banker, London, 1 cs.; Titan Shipping Co., Columbus, Bremen, 2 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., American Banker, London, 11 cs.; C. Schleicher & Schull Co., Inc., Deutschland, Hamburg, 17 cs.

FILTER COMPOUND

Gerhard & Hey, Edam, Rotterdam, 12 cs.

SURFACE COATED PAPER

Globe Shipping Co., Columbus, Bremen, 25 crates; Globe Shipping Co., Europa, Bremen, 51 crates; Globe Shipping Co., Deutschland, Hamburg, 22 cs.; Chas. Happel, Deutschland, Hamburg, 5 cs.; Phoenix Shipping Co., Deutschland, Hamburg, 2 cs.; Gevaert Co. of America, Black Heron, Antwerp, 32 cs.

BASIC PAPER

Globe Shipping Co., Europa, Bremen, 11 cs.

METAL COATED PAPER

Rohner Gehrig & Co., Deutschland, Hamburg, 4 cs.

DECALCOMANIAS

Sellers Transportation Co., Europa, Bremen, 5 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Carinthia, Liverpool, 8 cs., (duplex).

TISSUE PAPER

———, Normandie, Havre, 6 cs.

PARCHMENT PAPER

Lunham & Reeve, Inc., American Banker, London, 10 bls.

COLORED PAPER

International F'd'g Co., Deutschland, Hamburg, 5 cs.

FIBER BOARD

American Express Co., Deutschland, Hamburg, 22 bls.

PASTE BOARD

———, Europa, Bremen, 42 cs.; ———, Deutschland, Hamburg, 19 bls.; Phoenix Shipping Co., Deutschland, Hamburg, 6 bls.

MISCELLANEOUS PAPER

International F'd'g Co., Deutschland, Hamburg, 4 cs.; Jay Madden Corp., Deutschland, Hamburg, 35 bbls.; ———, Kinai Maru, Yokohama, 9 cs.; National City Bank, Kinai Maru, Yokohama, 18 cs.

RAGS, BAGGINGS, ETC.

E. J. Keller Co., Inc., Hektor, ———, 68 bls. bagging; E. J. Keller Co., Inc., Hektor, ———, 96 bls. paper stock; Chase National Bank, Hektor, Barcelona, 111 bls. bagging; Chase National Bank, Hektor, Barcelona, 158 bls. rags; Chase National Bank, Hektor, Barcelona, 207 bls. fustians; Irving Trust Co., Hektor, Valencia, 234 bls. rags; Bank of N. Y. Trust Co., Hektor, Seville, 432 bls. rags; E. J. Keller Co., Inc., Black Gull, ———, 111 bls. rags; E. J. Keller Co., Inc., Black Heron, ———, 152 bls. bagging; W. Steck & Co., Black Heron, Antwerp, 150 bls. jute waste; Irving Trust Co., Black Heron, Antwerp, 95 bls. rags; Irving Trust Co., Black Heron, Antwerp, 60 bls. bagging; Royal Manfg. Co., Black Heron, Antwerp, 172 bls. cotton waste; Hicks Costarino & Co., Black Heron, Antwerp, 111 bls. flax waste; ———, Excalibur, Alexandria, 10 bls. rags; Banco Coml Italiane Trust Co., Excalibur, Alexandria, 135 bls. rags; E. J. Keller Co., Inc.,

Washington, ———, 59 bls. jute waste; E. J. Keller Co., Inc., Pipestone County, ———, 111 bls. new cuttings; Mitsui & Co., Ltd., Kinai Maru, Shanghai, 100 bls. cotton waste; Manufacturers Trust Co., Kinai Maru, Osaka, 50 bls. cotton waste; ———, Kinai Maru, Osaka, 50 bls. rags; E. J. Keller Co., Inc., Edam, ———, 153 bls. paper stock.

CHINA CLAY

English China Clays Sales Corp., Carinthia, Liverpool, 254 bags, 37 casks.

WOOD PULP BOARDS

Jay Madden Corp., Scanstates, Kotka, 36 bls. 12 rolls; 9 tons; Lagerloef Trading Co., Scanstates, Wiborg, 15 bls., 2 tons.

WOOD PULP WASTE RESIDUE

Colas Roads, Inc., Simon von Utretcht, Sandarne, 153 drums, 33 tons.

WOOD PULP

M. Sone, Washington, Hamburg, 871 bls. wood pulp, 146 tons; ———, Washington, Hamburg, 274 bls. wood pulp, 28 tons; J. Andersen & Co., Stavangerfjord, Oslo, 1,835 bls. sulphite; Irving Trust Co., Stavangerfjord, Oslo, 1,320 bls. mechanical pulp; Lagerloef Trading Co., Scanstates, Kotka, 33 bls. sulphate, 4 tons; Lagerloef Trading Co., Scanstates, Wiborg, 5,506 bls. sulphite, 1,112 tons; Lagerloef Trading Co., Scanstates, Wiborg, 500 bls. sulphate, 100 tons; Castle & Overton, Inc., Scanstates, Wiborg, 1,100 bls. wood pulp, 217 tons; M. Sone, Scanstates, Helsingfors, 415 bls. wood pulp, 83 tons; Atterbury Bros., Inc., Scanstates, Helsingfors, 500 bls. wood pulp, 100 tons; E. J. Keller Co., Inc., Deutschland, ———, 335 bls. wood pulp, 50 tons; Castle & Overton, Inc., Deutschland, Hamburg, 618 bls. wood pulp, 123 tons; Bank of The Manhattan Co., Simon von Utrecht, Hernosand, 313 bls. sulphate, 52 tons; ———, Simon von Utrecht, Hernosand, 300 bls. sulphate, 50 tons; ———, Simon von Utrecht, Hernosand, 600 bls. sulphite, 100 tons; Bank of The Manhattan Co., Simon von Utrecht, Hernosand, 900 bls. sulphite, 150 tons; Bulkley Dunton & Co., Simon von Utrecht, ———, 7,600 bls. wood pulp, 1,420 tons; ———, Simon von Utrecht, Sandarne, 1,375 bls. sulphate, 275 tons; ———, Simon von Utrecht, Sandarne, 250 bls. sulphite, 50 tons; Johaneson Wales & Sparre, Inc., Simon von Utrecht, Sundsvall, 3,228 bls. sulphite, 568 tons; Gottesman & Co., Inc., Simon von Utrecht, Sundsvall, 1,338 bls. mechanical pulp, 226 tons.

ALBANY IMPORTS

WEEK ENDING AUGUST 24, 1935

Bulkley Dunton & Co., Simon von Utrecht, ———, 3,600 bls. wood pulp, 609 tons; J. Andersen & Co., Simon von Utrecht, Sundsvall, 180 bls. mechanical pulp, 30 tons; Johaneson Wales & Sparre, Inc., Simon von Utrecht, Sundsvall, 1,170 bls. sulphite, 198 tons; Johaneson Wales & Sparre, Inc., Simon von Utrecht, Sundsvall, 625 bls. chemical pulp, 127 tons; ———, Simon von Utrecht, Hernosand, 150 bls. sulphate, 25 tons; ———, Simon von Utrecht, Hernosand, 900 bls. sulphite, 150 tons; Bank of N. Y. Trust Co., Simon von Utrecht, Hernosand, 6,000 bls. sulphate, 1,016 tons; Perkins Goodwin & Co., Simon von Utrecht, Munskund, 6,000 bls. sulphate, 1,000 tons; International Paper Co., Novasli, Newcastle, 2,200 cords pulpwood.

BOSTON IMPORTS

WEEK ENDING AUGUST 24, 1935

Paper Makers Importing Co., Wanja, Fowey, 873 tons, 14 cwt. china clay; J. W. Higman & Co., Wanja, Fowey, 165 tons, 15 cwt. china clay; J. W. Higman & Co., Wanja, Fowey, 28 casks china clay; English China Clays Sales Corp., Wanja, Fowey, 200 bags; 20 tons; American Hair & Felt Co., Black Gull, Rotterdam, 1,891 bls. 4 bags glue stock; State Chemical Co., Black Gull, Rotterdam, 300 bags wood flour, 16,740 kilos; E. Butterworth & Co., Inc., Black Gull, Rotterdam, 31 bls. rags; G. F. Malcolm, Inc., Carinthia, Liverpool, 4 cs. tissue paper; Leigh Textile Co., Carinthia, Liverpool, 16 bls. cotton waste; G. M. Graves Co., Pipestone County, Havre, 194 bls. rags; ———, Pipestone County, Havre, 24 bls. rags; ———, Pipestone County, Havre, 100 bls. bagging; ———, Kinai Maru, Osaka, 149 bls. cotton waste.

PHILADELPHIA IMPORTS

WEEK ENDING AUGUST 24, 1935

G. W. Millar & Co., Black Gull, Rotterdam, 77 coils old rope; Castle & Overton, Inc., Black Gull, Rotterdam, 300 bls. wood pulp, 60 tons; Paper Makers Importing Co., Wanja, Fowey, 168 tons, 7 cwt. china clay; English China Clays Sales Corp., New York City, Fowey, 1,159 tons china clay; Moore & Munger, New York City, Fowey, 1,155 tons china clay; ———, New York City, Bristol, 619 bags china clay; B. L. Soberski, Toledo, Greaker, 250 bags wood flour; J. W. Hampton, Jr., & Co., Scanstates, Kotka, 367 rolls newsprint; E. W. Twitchell, Inc., Scanstates, Kotka, 87 rolls wrapping paper; J. M. Hagy Waste Works, Norfolk Maru, Kobe, 83 bls. rags; Union Waste Co., Norfolk Maru, Kobe, 100 bls. rags; E. J. Keller Co., Inc., Pipestone County, ———, 67 bls. rags; Castle & Overton, Inc., Pipestone County, Dunkirk, 19 bls. rags; Castle & Overton, Inc., Pipestone County, Havre, 994 bls. rags; ———, Pipestone County, Havre, 81 bls. rags; Banco Coml Italiane Trust Co., Pipestone County, Havre, 85 bls. rags; G. W. Millar & Co., Pipestone County, Havre, 118 bls. linsey rags; Gottesman & Co., Inc., Hallaren, Sweden, 712 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING AUGUST 24, 1935

Congoleum Nairn Co., Black Heron, Antwerp, 281 bls. bagging; Congoleum Nairn Co., Black Heron, Antwerp, 187 bls. rags; Sherman Bros., Simon von Utrecht, Sandarne, 2,000 bls. sulphate, 400 tons; Bank of The Manhattan Co., Simon von Utrecht, Hernosand, 300 bls. sulphite, 50 tons; ———, Simon von Utrecht, Hernosand, 3,930 bls. sulphate, 655 tons; Johaneson Wales & Sparre, Inc., Simon von Utrecht, Sundsvall, 1,375 bls. sulphite, 275 tons; Perkins Goodwin & Co., Simon von Utrecht, Sundsvall, 996 bls. sulphate, 168 tons; Bulkley Dunton & Co., Simon von Utrecht ———, 1,375 bls. sulphite, 275 tons; Gottesman & Co., Inc., Hallaren, Sweden, 875 bls. wood pulp; Gottesman & Co., Inc., Belos, Sweden, 250 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING AUGUST 24, 1935

American Express Co., Black Heron, Antwerp, 11 cs. wrapping paper.

CHARLESTON IMPORTS

WEEK ENDING AUGUST 24, 1935

W. Garretson, Norfolk Maru, Shanghai, 206 bls. bagging; Chase National Bank, Norfolk Maru, Osaka, 800 bls. bagging; Chase National Bank, Norfolk Maru, Kobe, 1,600 bls. bagging.

TAMPA IMPORTS

WEEK ENDING AUGUST 24, 1935

Tampa Paper Co., Scanstates, Kotka, 30 bls. newsprint.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, August 28, 1935.

Although the local paper market was only moderately active during the past week inquiries for future account were numerous, indicating a revival of trading after the Labor Day holiday. Sales forces of the leading paper organizations, in particular, are viewing the future through rose-colored glasses.

The newsprint paper market is showing signs of improvement. Production in the United States, Canada and Newfoundland is keeping pace with the demand from the publishers, without building up excessive accumulations. From the Dominion many reports are received of higher prices for 1936 to meet increased manufacturing costs.

Steadiness prevails in the fine paper market. Demand for book, cover, writing and ledger papers is satisfactory for the season. Prices are well maintained. Tissues are going forward in good volume. The coarse paper market is sharing the general improvement, with the usual expansion of wrapping paper demand anticipated during the closing months of the year.

Mechanical Pulp

The ground wood pulp market pursues the even tenor of its way. Manufacturing operations in North America and abroad are keyed to consumption, as far as possible, and stocks at the pulp mills are not unduly large. The prevailing demand is somewhat restricted. Prices, however, are holding to schedule, in most instances.

Chemical Pulp

Trading in the chemical pulp market is brisk for the time of year. Demand for the various domestic and foreign grades is persistent. Kraft pulp is particularly strong, with offerings limited and prices firm. Bleached and unbleached sulphite are also holding up well. Prices continue steady and unchanged.

Old Rope and Bagging

The old rope market is rather quiet. Paper mill demand for domestic and imported old manila rope is restricted. Small mixed rope is fairly active. Old rope prices are nominal. The bagging market is displaying strength. Gunny and scrap bagging are moving in good volume. Roofing bagging is firmer than for some time past.

Rags

Sentiment in the domestic rag market is improving. Demand from the paper mills is better. Cotton cuttings are exhibiting a strong undertone, especially No. 1 white shirt cuttings and other grades required for export as well as domestic use. Roofing grades are higher. No. 2 roofing rags are now quoted at from $1.30 to $1.35.

Waste Paper

The paper stock market is marking time. There are signs of livelier trading in the near future, however, when the paper and board mills expand operations to meet the usual Fall rush of orders. Quotations on the lower grades are practically unchanged. The higher grades of waste paper continue steady.

Twine

No radical changes transpired in the local twine market. While most of the business being transacted at present is routine, the outlook for the future is promising, due to some extent to the anticipated increased demand for wrapping paper which always takes place in the closing months of the year. Prices are generally holding to schedule.

West Virginia Sales Conference

[FROM OUR REGULAR CORRESPONDENT]

MECHANICVILLE, N. Y., August 26, 1935—A sales conference for representatives and distributors of the West Virginia Pulp and Paper Company was held here during the week with a large attendance. The guests included officers from the main headquarters in New York City and the various mills controlled by the company. Thomas H. Sterling, resident manager, presided at the gathering. Following business sessions members of the group journeyed to Saratoga Springs where they enjoyed the races. A golf tournament was also staged by other members.

Among those in the group were W. N. Schaefer, of the P. W. Andrews Paper Company, of Washington; Royden Loring, of the Arnolds-Roberts Company, of Boston; James E. Bradley and J. W. Schwartze, of the Bradley-Reese Company, Baltimore; D. H. Headley, Carpenter Paper Co., Omaha, Neb.; R. G. Elliot and H. S. Fraser, Chatfield Paper Corporation, Cincinnati, Ohio; F. Foreheimer and W. F. Dayle, Chatfield & Woods Company, Pittsburgh, Pa.; Dewey Elish, of M. M. Elish & Co., New York City; C. W. Musick, Graham Paper Company, St. Louis; W. J. Hermann, of W. J. Hermann, Inc., Milwaukee, Wis.; E. C. Mead, Richmond Paper Company, Richmond, Va.; W. A. Rhodes, of the S. P. Richards Company, Atlanta, Ga.; C. N. Bicknell, M. W. Weil, J. J. Dowling and A. J. Stetekluh, of the Union Paper and Twine Company, Cleveland.

Among the other representatives of the company in attendance were W. H. Skeen, Covington, Va.; E. S. Hooker and P. J. O'Brien, Piedmont, West Va.; W. F. Taylor, Tyrone, Pa.; H. D. Stroup, Williamsburg, Pa.; H. F. Harrison, J. R. Miller, Shepard Dillingham, George Heintzmann and C. P. Elston, New York City; William H. Smythe, R. A. Stites, Chicago; and George M. Howarth and W. Hunter Snead, of Philadelphia.

Stanley C. Willey Resigns

Atterbury Brothers, Inc., 110 E. 42nd street, New York, announce the resignation of Stanley C. Willey, vice-president, effective September 1. Johannes Westergaard, vice-president, is in charge of sales.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, August 28, 1935.

BLANC FIXE.—The blanc fixe market is only moderately active. Prices are holding to previously quoted levels. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Steadiness prevails in the bleaching powder market. Shipments against contract are moving in satisfactory volume. The price situation remains unchanged. Bleaching powder is quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market is firmer. Domestic standard ground is quoted at 11 and finely ground at 11½; French standard ground at 12¼ and finely ground at 12¾; Argentine standard ground at 12½ and finely ground at 13 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Demand for caustic soda is fairly persistent. The contract movement is normal. Prices remain steady. Solid caustic soda is quoted at from $2.60 to $3.10; while the flaked and ground are selling at from $3 to $3.05 per 100 pounds, in drums, at works.

CHINA CLAY.—The china clay market is exhibiting a strong undertone. Prices are holding to schedule. Imported china clay is quoted at from $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at from $6.50 to $12 per ton, at mine.

CHLORINE.—Business in the chlorine market is quite active for the season. Paper mill demand is well sustained. Prices are steady to firm. Chlorine is quoted at from $2 to $2.40 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is improving. Paper making gum rosin is now selling at $4 and wood rosin at $4.20 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is selling at $2.45 per 100 pounds, in tank cars, at works.

SALT CAKE.—Conditions in the salt cake market are satisfactory. Prices are holding to schedule. Salt cake is quoted at from $12 to $13; and chrome salt cake at from $11 to $12 per ton, at works. Imported salt cake is selling at from $12 to $13 per ton, on dock.

SODA ASH.—The soda ash market is displaying strength. Shipments against contract are moving steadily. Prices are firm. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.20; and in barrels, $1.50.

STARCH.—No radical changes are reported in the starch market. Paper mill demand is rather restricted. Prices remain unchanged. Special paper making starch is quoted at $3.59 **per 100 pounds, in bags**; and at $3.86 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—The sulphate of alumina market is holding up well. Demand from the mills is brisk. Prices remain unchanged. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Paper mill demand for talc is rather light at present. Contract shipments are moving slowly. Prices are unchanged. Domestic talc is quoted at from $16 to $18 per ton, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.82½	@	.85
White No. 2	.67½	@	—
Anti-Tarnish M. G. only	1.00	@	—
Colored	.85	@	—
Kraft	.70	@	—
Manila	.67½	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	4.00	@	4.50
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.50	@	3.50
Glassine—			
Bleached	.11	@	—
Unbleached	.09	@	—

(The following Quotations are Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Kraft—			
No. 1 Northern	4.12½	@	4.75
Standard	4.00	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	32.50	@	35.00
Chip	32.50	@	35.00
Sgl. Mla. Ll. Chip	45.00	@	47.50
Jute Lined Chip	45.00	@	47.50
White Patent Coated	55.00	@	57.50
Binders Boards	67.00	@	75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	21.00	@	22.00
Dry	21.00	@	22.00
(F. o. b. Mill)			
No. 1 Domestic and Canadian	18.00	@	24.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.60	@	—*
Division 2	2.55	@	—*
Division 3	2.50	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.05	@	—*
Other Than Easy Bleaching—			
Class 2. Higher than Standard	2.00	@	—*
Class 3, Standard	1.95	@	—*
Class 4, Lower than Standard	1.90	@	—*
(On Dock, Atlantic Ports)			
Kraft No. 1	1.70	@	1.80
Kraft No. 2	1.50	@	1.60
(F. o. b. Pulp Mill)			
Kraft Domestic	1.70	@	2.35
(Delivered)			
Soda Bleached	2.50	@	—

* Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.00	@	6.25
Silesias No. 1	4.50	@	4.75
New Unbleached	6.50	@	6.75
New Soft Blacks	3.00	@	3.25
Blue Overall	4.25	@	4.50
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.55	@	1.60
No. 2	1.30	@	1.35
No. 3	.95	@	1.00
No. 4	.95	@	1.00
No. 5A	.90	@	1.00

Foreign Rags

New Rags

New Dark Cuttings	1.75	@	1.85
New Mixed Cuttings	1.80	@	1.90
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.95	@	2.05
Dark Cottons	1.50	@	1.60
Old Shopperies	1.00	@	1.05
New Shopperies	.95	@	1.05
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.70	@	1.80
Domestic	1.50	@	1.60
Wool Tares, light	1.65	@	1.70
Wool Tares, heavy	1.75	@	1.80
Bright Bagging	1.65	@	1.70
Manila Rope—			
Foreign	1.85	@	2.00
Domestic	1.75	@	2.00
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.45	@	2.55
Ordinary Hard White No. 1	2.10	@	2.15
Hard White No. 2	1.90	@	2.00
Soft White No. 1	1.70	@	1.80
Flat Stock—			
Stitchless	.65	@	.75
Over issue Mag	.65	@	.75
Solid Flat Book	.45	@	.50
Crumpled No. 1	.35	@	.40
Solid Book Ledger	1.50	@	1.65
Ledger Stock	1.00	@	1.10
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.70	@	1.80
New Cuttings	1.35	@	1.45
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.20	@	1.30
Strictly Overissue	.60	@	.65
Strictly Folded	.30	@	.32½
No. 1 Mixed Paper	.25	@	.27½

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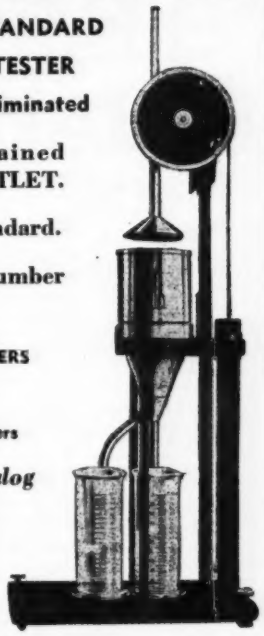

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India Compress	.11¾	@	.12¼
Fine Polished—			
Fine India	.19	@	.21
Special	.17	@	.19
B. C.	.25½	@	.27½
Unpolished—			
Box	.10	@	.10½
Paper Makers	.07	@	.12
Tube Rope	.08	@	.13½
Wall Paper	.09	@	.12½
Wrapping	.13	@	.18
Special	.13	@	—
Soft Fiber Rope	.10¾	@	.10¾

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.12	@	.50
Water Marked Sulphite Bond	.06¾	@	.11
Sulphite Bond	.05½	@	.11
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¾	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	41.00	@	—
Sheets, open	46.00	@	48.50
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent Coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Kraits	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.40	@	.50
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.30	@	.35
No. 1 Mixed Paper	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(Delivered Philadelphia)

Bonds	.05-9/10	@	.38
Ledgers	.06-9/10	@	.40
Writings—			
Fine No. 3	.05	@	.06
Superfine	.10	@	.12
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Book, M. F.	.05¼	@	.06¼
Book, S. S. & C.	.05½	@	.07½
Book, Coated	.06½	@	.09
Coated Lithograph	.06¼	@	.08½
Label	.07	@	.11
No. 1 Jute Manila	6.25	@	—
Manila Sul., No. 1	5.25	@	—
Manila No. 2	3.75	@	—
No. 1 Kraft	5.00	@	—
Southern Kraft	4.75	@	—
Common Bogus	.03	@	—
News Print Rolls	40.00	@	—
Straw Board	40.00	@	45.00
News Board	40.00	@	—
Chip Board	37.50	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.40	@	1.75
Best Tarred, 3 ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01½	@	.02
Blue Overall	.03½	@	.04
Cottons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.01½	@	.03
Fancy	.01½	@	.03
New Black Soft	.02	@	.04
New Light Seconds	.01½	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O. D.	.03	@	.04
No. 2 Mixed	.03	@	.04
Corduroy	.02	@	.03
New Canvas	.03½	@	.04½
New Black Mixed	.02½	@	.03¾

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.25	@	2.30
No. 2 Hard White	1.90	@	2.00
No. 1 Soft White	1.80	@	1.85
No. 2 Soft White	1.25	@	1.30
No. 1 Mixed	—	@	.75
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.00	@	1.10
No. 1 Books, heavy	.55	@	.60
No. 1 New Manila	1.35	@	1.40
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.00	@	—
No. 1 Mixed Paper	.25	@	.30
Straw Board Chip	.30	@	—
Binders Board Chip	.30	@	—
Corrugated Board	.50	@	—
Overissue News	.50	@	—
Old Newspapers	.30	@	—

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.07¼	@	.11
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09¼	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¾	@	.05
No. 2 Kraft	.04⅛	@	.04⅛
(F. o. b. Boston)			
Southern Kraft	.03¾	@	.04⅛
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print Rolls	39.50	@	—
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35s to 70s	—		@40.00
Filled News Board	40.00		@45.00
Chip Board	37.50		@40.00
Chip Board (Creasing)	37.50		@40.00
Single Manila Lined Chip	47.50		@52.50
Single White, Patent Coated News Board (Bender)	55.00		@65.00
Wood Pulp Board	70.00		@75.00
Binder Boards (Standard Grade)	67.00		@75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.00	@	2.20
No. 1 Soft White	1.75	@	1.90
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.40	@	1.50
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.85	@	.90
No. 1 Books, heavy	.55	@	.65
No. 1 Books, light	.50	@	.60
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.30	@	1.40
No. 1 Old Manila	.60	@	.65
White Blank News	1.15	@	1.20
No. 1 Kraft	1.00	@	1.05
Mixed Papers	.22½	@	.25
Print Manila	.40	@	.45
Container Manilas	.27½	@	—
Overissue News	—	@	.35
Old Newspapers	.25	@	.27½
Box Board Chips	—	@	.25
Corrugated Boxes	.35	@	.37½
Screening Wrappers	.40	@	.45

Bagging
(F. o. b. Boston)

Manila Rope—			
Foreign	1.80	@	1.90
Domestic	1.50	@	1.75
Transmission Rope	.90	@	1.00
Jute Rope	1.50	@	1.60
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.85	@	—
Domestic	1.35	@	—
Bleachery Burlap	4.00	@	4.50
Scrap Burlap—			
Foreign	1.75	@	1.85
Domestic	1.60	@	—
Scrap Sisal	1.35	@	—
Scrap Sisal for Shredding	1.35	@	1.50
Wool Tares, heavy	1.75	@	1.85
New Burlap Cuttings	1.60	@	1.75
Australian Wool Pouches	2.50	@	2.75
Heavy Baling Bagging	1.75	@	1.85
Paper Mill Bagging	1.20	@	1.30
Bagging No. 2	.90	@	.95

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.01¾	@	.02
New White No. 1	.06	@	.06¼
New White No. 2	.04	@	.04¼
Silesias No. 1	.04¼	@	.04½
New Black Silesias	.02½	@	.03
Soft Unbleached	.06½	@	.06¾
Blue Cheviot	—	@	4.65
Fancy	.0195	@	.021
Washable	.0165	@	.0170
Cottons—According to grades—			
Blue Overalls	.04¼	@	.04½
New Black, soft	.04	@	.04¾
Khaki Cuttings	.03½	@	.03¾
O. D. Khaki	.03	@	.03¼
Corduroy	.01¾	@	.02
New Canvas	—	@	.05
B.V.D. Cuttings	—	@	.06¾
Paper Mill Bagging	1.10	@	1.25

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues	1.25	@	1.50
Thirds and Blues—			
Repacked	2.00	@	2.75
Miscellaneous	2.00	@	2.25
Black Stockings	2.50	@	3.00
Roofing Stock—			
No. 1	1.40	@	1.50
No. 2	1.05	@	1.15
No. 3	.95	@	1.05

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.50	@	1.55
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.25	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.90	@	—
Old Linsey Garments	1.10	@	—

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.11	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.12	@	—
No. 2 Colored	.09	@	—
Ledgers (sulphite)—			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.50	@	—
No. 2 M. F. (Carloads)	6.00	@	—
No. 3 M. F. (Carloads)	5.50	@	—
No. 1 S. C. (Carloads)	7.00	@	—
No. 2 S. C. (Carloads)	6.50	@	—
No. 3 S. C. (Carloads)	5.20	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	13.00	@	—
Wrapping—delivered—			
Rag Brown	4.75	@	—
White Wrap	3.50	@	—
"B" Manila	5.25	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft, No. 2	5.40	@	—

(F. o. b. Cars Toronto)

News, per ton—			
Rolls (contract)	39.50	@	—
Sheets	44.50	@	—

Pulp

Ground wood	27.00	@	—
Unbleached Sulphite	42.00	@	—
Book (Class 1)	58.00	@	—
Writing (Class 2)	59.00	@	—
Select (Class 3)	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.30
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.40
Printed Manilas	.50	@	.60
Kraft	1.00	@	1.60
News and Scrap—			
Strictly Overissue	.60	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.06	@	—
Fancy Shirt Cuttings	.02	@	—

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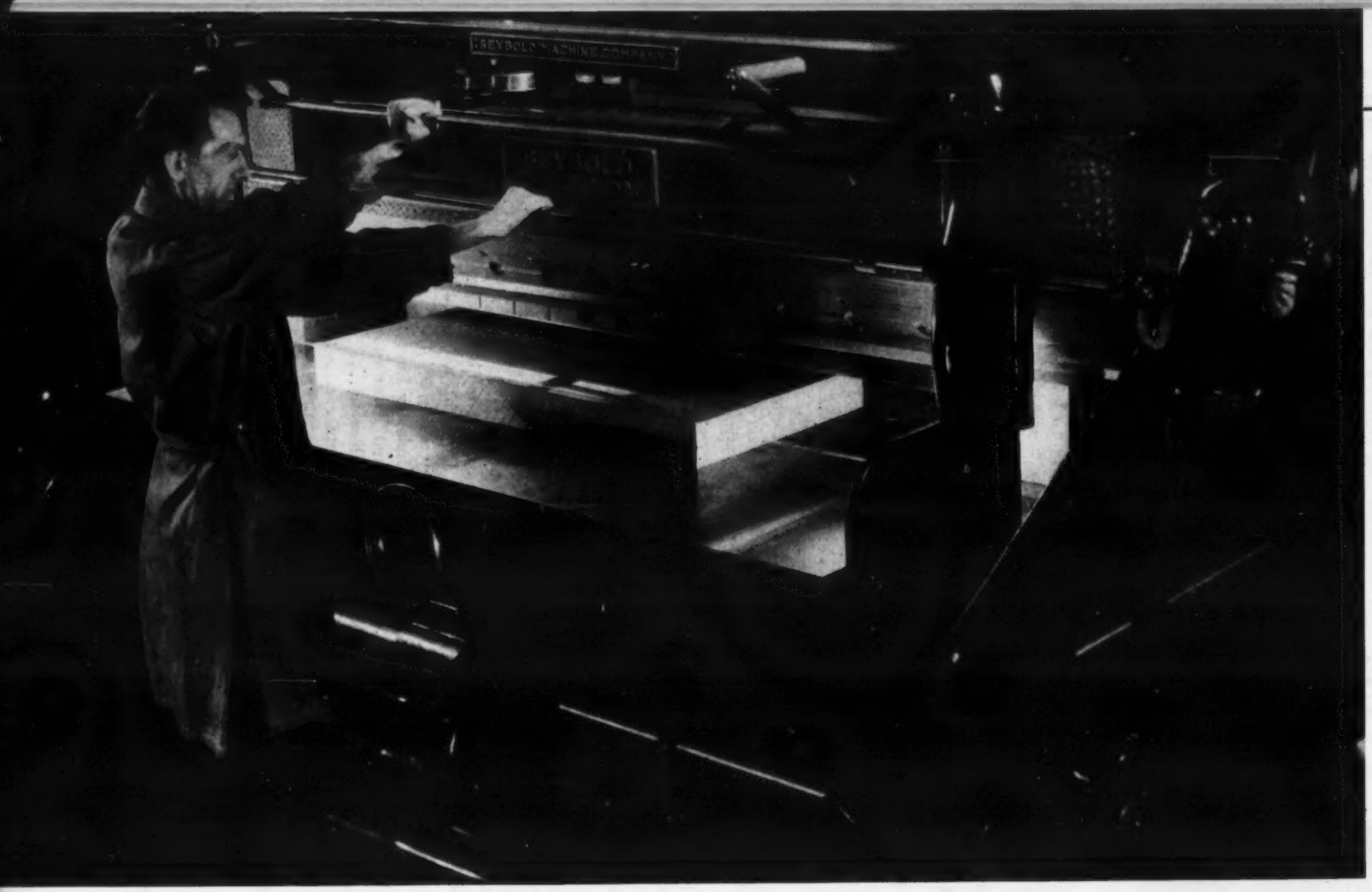

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